

Myers, J. P.

1978 - 1980

Alaska

1978: Journal
Species accounts
Daily Lists

1979: Journal
Daily Lists

1980: Journal
Species Accounts
Daily Lists

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JPMyers
1978

Journal

Barrow, North Slope, Alaska

21 May

At Barrow, again. Arrived @ 1710 via Wien Flight 3, greeted at the airport by 30°F, a brisk easterly wind, and one singing Plectrophenax. Dave Shuford and Stuart Johnston arrived with me. Melt-off has begun, with bare ground and puddles prominent in the village, and the road is a nasty pile of slush. But few birds are here. Only after a 20 min search through the dump did we find a single ♂ Calcaricus. 3 Arenaria interpres, 500 to 1000 Larus hyperboreus (almost all adults), and 10-15 Plectrophenax. The Plectrophenax apparently have moved in throughout the barrow area. According to Terry Hall (resident at the lab) they arrived between 21 April and 15 May while he ~~was~~ was away. The gulls did also.

22 May

Little time for birding today as we are trying to get our expedition off to Meade River, 60 mi south. After much ~~rather~~ bureaucratic hassle I arranged for a flight tonight.

~2100 took off in the single offer for Atkasook on the Meade River.

Atkasook, Meade River, Alaska

Very little difference if any between snow conditions at Barrow + the tundra between Barrow + Meade. The only extensive snow-free areas are sand dunes lining the Meade River itself. Otherwise all that emerges above the snow are the tops of Eriophorum vaginatum tussocks. Saw ~20 caribou and 1 arctic fox en route to Meade. A few Larus hyperboreus. Otherwise nothing. We landed on the river itself beneath camp. Temperature ~25°F or 20°F. Brisk easterly wind. It took us ~~the~~ ^{1 1/4} hours to ~~then~~ haul all our gear up from the river to camp, and then to get inside the buildings. The entrances to most of them are drifted with ~~snow~~ snow, piled high against the doors. 4 ♂ Calcaricus were foraging on some exposed tundra by the bluff. 2 ♂ Lagopus in brilliant plumage moved apart around camp. One displayed in flight.

23 May

Up at 0630 to a blustering cold day. Wind >20 mph. Temp ^{-6°C at 1400 hrs.} ~~20°C~~ ^{20°F}
I had the heater + stove going in short order. At 1100 I walked NE to the end of the runway and back again. 45 min. ~~the~~ The ground is >90%

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Atkasook at Meade River, N. Slope, Alaska

23 May
cont'd

snow-covered, with a few sites near the river on the bluff bare, and the airstrip largely cleared. Most of the 15 or so Calcarius seen were around these bare sites. At 1430 Stuart, Dave + I walked along the river first to Butterfly Creek (~ 1.5 km upstream along the River), then up on the tundra for a few hundred meters south then back ~~to~~ ENE to some bluffs on the NE side of the river. From there we returned directly (~ 2 km) to camp. The only area with extensive bare sites was at these bluffs, which were heavily dominated by sand dune plant associations, and a 200 m strip W from the bluffs paralleling the river for several hundred m. This latter area was low center polygon habitat with a considerable amount of Erigeron vaginatus. Aside from Larus hyperboreus, the only birds we found ^{either} stuck to these cleared sites, or flew over them. Most unexpected were 20+ Anser albifrons. 3 flying shorebirds: 2 together were totally unidentified other than size (small-medium sandpiper). The 3rd was probably a C. melanotos. ~ 15 Calcarius ♂♂ in flocks. 3 Acanthis sp. And both Lagopus sp (L. lagopus, L. mutus). Today is obviously much colder than previous days, as in the areas near (16, 41) which are largely melted ~~now~~ ^{today have} solid ice pools of melt water, now refrozen with the cold.

24 May

Lazy morning after a reasonable night's sleep in the kitchen (for warmth). -7°C , windy with gusts >20 mph. Unpleasant + not very birdy. We could hear a few Larus hyperboreus adults cruising by the river bluff, but other than that none made an appearance around the camp. A few Spermophiles ran between buildings. But the cold, wind, and intermittent snow kept the birds down and us in. We did go out at 1430 for ~ 1 hr, walking about 2 km. During that we saw 5 Arenaria interpres plus the gaggle of other local birds (see daily list.)

2000 - 2230 walked from camp out to (16, 41), where much of the snow is off.

Wind abating, temp -4°C . ~~light~~ clouds 100% but well off ground. There is definitely a dearth of birds. I saw a flock of 5 Calcarius, <5 Larus h., and <10 L. mutus and <15 L. lagopus.

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Atkasook on the Meade River, North Slope Borough, Alaska

24 May
(cont'd)

15+ caribou out on the loop by the breeding bird plot. The patching^{ness of} snow melt is very exaggerated right now. Only a few areas on river bluffs approach being snow free. These are typically sites near sand dune blow-outs. The vegetation is heavily dominated by Dryas and Carex, with a matrix of sand grains, much like the area in the loop through which T8 runs. What birds there are appear to be concentrated on these sites, particularly the 2 Lagopus species and Calcarius (that doesn't leave much).

25 May

Trans 1-4, 11-14

I sampled 8 transects today for snow cover while Dave and Stuart did the other 6. The weather has turned for the better: no wind at ~~1000~~ 0700, Temp $\sim -4^{\circ}\text{C}$. Stayed nearly windless all day even though we were out in the wilds from 0830-1530. Marvelous, but still a bit brisk. By 1530 temp was up to 1°C . No direct sun, but the low cloud level was thin enough so that you could see blue sky through the monolayer. Every so often it got thicker + a few snow flakes fell. The distribution of snow was very clean: almost 100% on transects 1-4, 14, 13. But all others ranged between extremes of 5-100. (% cover of 50x50m subunits). By and large 2 ~~do~~ types of sites were clearest: those downwind of dunes - e.g. the end of T11 (18, 32) - or along bluffs - e.g. the beginning of T12 (14, 31). There are also the only places blessed with ptarmigan. (see sp. account) or with other birds, but there are few enough of those that the distribution is only really clear w/ ptarmigan (both spp.).

26 May

Stuart Johnson and I today ran T5, T11, T12, T13, and T14 for real, sampling birds. We began at 0915 w/ temp $\sim -4^{\circ}\text{C}$, 100% clouds, no wind, ^{an} occasional snowflake. Recorded only 2 spp: Lagopus l. Calcarius lapponicus, ^{and Phalaropus n.} see transect summaries. Censused until 1245. Snow cover near 100% throughout except on ridges + near the end of T11. Not much sign yet that spring has arrived, other than a few singing Calcarius ♂♂ and Larus hyperboreus sitting on their nesting sites (see sp. account). Large herd of caribou (50+) to SE of study area. One red fox running along the ~~cl~~ cliffs by the river. Spermophilus actively calling at us.

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Atkasook on the Meade River, N. Slope, Alaska

26 May
(cont'd)

One interesting result is that Plectrophenax are found this year well away from the buildings by camp. We recorded one pair on T5, and Dave Shuford found another out by T6.

27 May

I sampled transects 1-4 between 0900 and 1100. Temp at 0700 = -6°C . Brisk NE wind ~15 mph. Brilliant sun obscured at ~0915 by intermittent N. slope fog (the type that is very dark ~~later~~ when looking horizontally but when you look up you see blue sky; classic Barrow). The fog hung in for the rest of the morning, lifting only gradually until it formed a low overcast bank. With the wind, which came up yesterday evening, and the periods of fog coupled with cold temps, the ground vegetation is coated with a stark hoarfrost, crystals over 1 cm long. Along the entire 4 km of transects I recorded 0 birds. At one point (between transects) 2 Larus h. flew over me. And walking back from T4 I passed by some Larus h. patently waiting on their nest site for the lake to melt. But otherwise nothing. Not a Calcarius, nor Lagopus. Fortunately it can't go on. About 1230 the single otter flew in with additional supplies for camp. I have not said much in here about our logistic difficulties this year resulting from NARL's (Naval Arctic Research Laboratory) own internal fevers. Suffice it to say that we are finally well provisioned, and lack only a fuse for the short wave radio. I spent the afternoon storing our gear, including 4 much welcomed bottles of propane. Temperature rose to -3°C at ~1230.

28 May

A brusque ENE wind prevailed all day, blowing in excess of 20 mph. Temperature at 7 was -6°C . At 1600 T = -4°C . Cloudless almost all day. We stayed in the vicinity of camp throughout the day, idled by the unpleasant wind. Even still, the daily list shot up: 3 new shorebirds (Pluvialis squatarola, Calidris melanotos, and C. alpina), all flying over camp, as well as 7 Stercorarius pomarinus and one flock of >40 Branta bernicla nigricans. So despite the continued cold weather and incessant wind, the pajeros are trying to do their thing: get to the merry Meade and breed. I could use some myself. I forgot to mention yesterday evening that 2 eskimoes appeared at the end of the runway hunting ptarmigan. They got 2 L. lagopus. They are also hunting Anser albifrons and Branta bernicla. I suspect they would concentrate more on the latter 2 were conditions more favorable for geese. But somehow the frozen tundra seems more

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Atkasook on the Meade River, N. Slope Borough, Alaska

28 May

ptarmigan-ish. Today two ski-mobiles full of goose hunters appeared at Baruello from Barrow. They got one en route, and popped at a small flock while here in camp.

29 May

The wind stopped, and lo + behold .. we have been inundated by arriving migrants. I got up at 0530 along with Stuart Johnston. Temp = -40C. No wind. No clouds. A beautiful spring morning. I immediately walked out to the airstrip. Calcarius lapponicus were streaming (literally) by, and before I was 50 m from camp a Motacilla flava flew over zigging. That was just the beginning - see daily list. By 1530 I ~~was~~ racked up 26 species (compare to 12 ^{all day} yesterday) and even though I walked several km, all species were observed within 500 m of camp, most flying by. Display is not yet in full swing. Several species gave full blown flight displays, but these were scattered individuals. Most birds seem preoccupied with moving and feeding. The displaying species are: Pluvialis squatarola ad dominica, Calidris alpina, C. mauri, C. pusilla, Limnodromus scolopaceus, Passerculus sandwichensis, ~~not~~ Calcarius lapponicus, and Phalaropus ~~max~~ nivalis. I find it exhilarating to be here today with all the activity. You could not stand in one place for 5 min during the first few hours of the morning without leaving your head ^{snapped} ~~snapped~~ to the side by a passing flurry of birds. Small flocks of geese crisscross the tundra, low over the ground, rising + falling with the tundra's undulations. And I mean criss-cross, helter skelter wise. Some head east, some go south, others north or west. Think how much energy they could save if they were to get together and plan, so that those to the east, for example, stay ~~there~~ there, instead of this interminable game of migrating chairs. And the geese are just the beginning. Longspurs dart together into the tundra in flocks of 5-15, ♂ + ♀ but still mostly ♂. Pectoral sandpipers move in all directions, chattering. And to round out the orchestration, white-fronted geese and black brant are almost constantly visible. So what did I do today? After the early trip to the airstrip, I got out my sound recording equipment to have a hand at taping. But the vocal displays were too infrequent, + the visual distractions incessant, so I gave up. At 1030 (after an hour of fighting with a dead generator, + winning in the end) I put on X-country skis and took off toward the south. I went as far as just beyond T63 (), reaching there around 1500. It was slow going, partly because of the constant need and

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Atkasook on the Meade River, North Slope Borough, Alaska

29 May
(cont'd)

desire to look at flying birds, requiring that I stop, take off my sunglasses, etc. But also because I am not very coordinated on skis. After all, it's my second time ever, and here I am, in the booneys trying to play Dog the Skiing Dane. It doesn't work, especially without any wax for the skis. At 1300 I gave up after my 4th fall + returned on foot. The snow ~~degraded~~ deteriorated during the morning anyway, melting fast and furiously. At 1500 the temp was $+3^{\circ}\text{C}$ ($+1$). But a 10 mph NW wind picked up also, and then clouds came in to lay over a solid overcast. Anything but another strong Easterly gale Back to migration: perhaps the most ~~satisfying~~ satisfying aspect of this event is that we see individuals arrive. Not only were there none seen on the ground yesterday, but this morning when I went out there was just one *C. pusilla* by the airstrip. 60 min later there were *Pluvialis dominica*, *squataria*, *C. mauri*, and *Limnolobus scolopaceus*. An hour after that these species were all displaying, however briefly, by the airstrip.

1600 hrs - I returned to the airstrip to see what new arrivals might be found, and amazingly, not only are there no new birds, but I was hard put to find any! The whole nature of the day has changed. A NW wind is blowing strong and the sky is 100% overcast. Few birds are flying. None are displaying. What a crude change. Temperature at 1600 $\approx 3^{\circ}\text{C}$, with melt water on the tundra.

30 May

Definitely a warming trend going on. Temperature at 0500 was -2°C . By 1200 it rose to 5°C . Thin fog at 0500, burning off by 0800. Slight wind from E at dawn, increasing gradually to 10 mph by 1200. The morning was gorgeously dripping with melting snow. ~~The~~ Today's movement of birds was not equal to yesterday's, but it had the same helter-skelter quality to it. *Calcarius* in flocks, but even more dispersed + singing. A group of 4 *C. mauri* by the E end of the runway, in an incessant flight display, chasing each other up and down the creek, stopping every so often to feed on exposed tundra hummocks. I remained around camp until 1830 waiting for the NARL plane to appear to carry me off to Barrow. During the a.m. I tagged local shorebirds, concentrating on *Calcarius mauri* (see Tape log and *C. mauri* sp account). By 0900 the wind was strong enough to ~~be~~ interfere

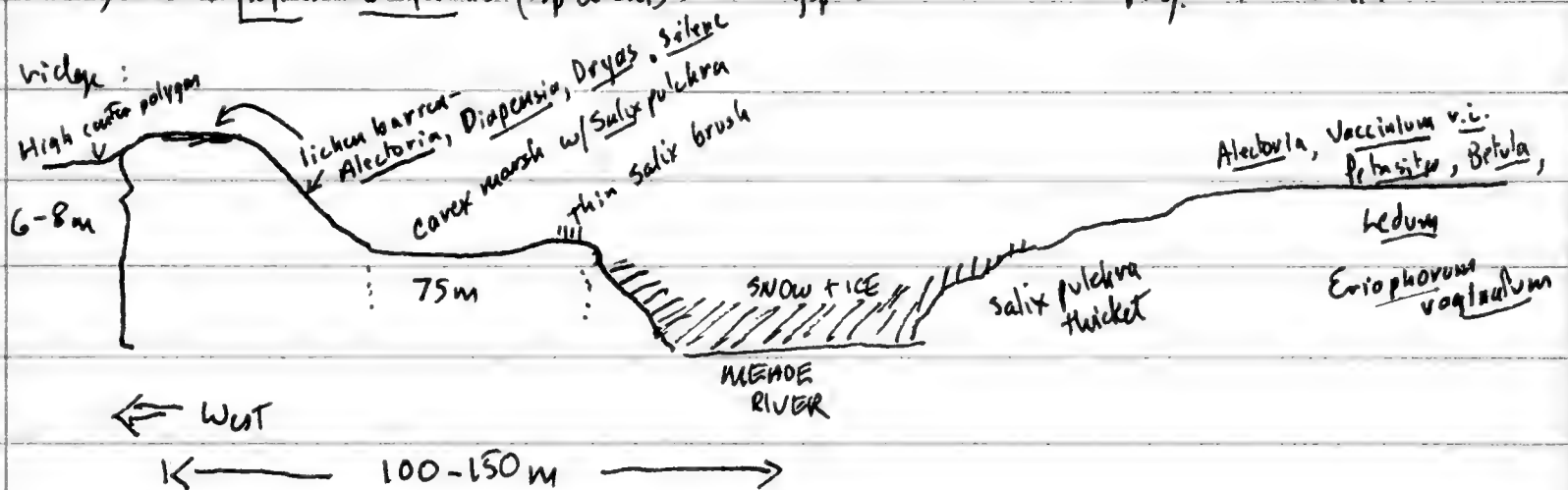
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30 May
(cont'd)

Atkasook on the Meade River, N. Slope Borough, Alaska

With taping so I returned to camp + got my gear in order, etc. The plane did not come. So at 1830 after a light dinner I walked north past Atkasook along the river to ~ (8,52), crossed the river there, and returned along the east bank. Snow is melting in a broad belt on the west side of the river, extending up to the top of the cliff and some 100-200 m inland. But otherwise cover exceeds 90%. Birds seen along the ^{west} ridge include displaying Motacilla flava (see sp account), flocks of Calidris alpina (sp accent) mixed with a sprinkling of Pluvialis dominica, P. squatarola, Arremonia interpres, Calidris bairdii (sp accent), C. pusilla (sp accent) and Tringites solivicolis (sp accent). Longspurs abound in display. The habitat is lichen



The uppermost part of the ridge is more barren, and in places is devoid of vegetation - particularly on or downwind of blow-outs [the ridge is heavily comprised of sand]. In these sites the lichen gives way to a thin covering of Carex obtusa, ^{and Carex hirtellii} Elymus, Silene acaulis, and Dryas integrifolia. Behind the ridge on the east is a well-developed high center polygon system, in which to date the tops have melted but snow still fills all troughs. Along the East bank snow cover is much more extensive, and the ground is cleared ~~only~~ only along a thin (3-5m) strip running along the shoulder of the bank, one which is much lower in height than the West bank. The exposed vegetation is a more mesic version of lichen ridge, heavy on the Alectoria (corniculata?), with various shrubby heathers and even a smattering of Eriophorum vaginatum tussock. BIRDS: the shorebirds were largely in a large expanse of sand dominated ridge top right down by Atkasook Village (7,51). In fact there were 3 flocks of C. alpina totaling over 100 individuals (60+ in one flock). By the time that I returned, at least one Stercorarius pomarinus had set up in territorial defense on the W bank that is quite rapid, as I saw none until this a.m.

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Atkasook, N. Slope Borough, Alaska

31 May

frittered away morning waiting for NAKL plane after a very successful taping of *C. mauri* (see sp account) during 0630-0830. At 1230 walked N to Atkasook to attempt radio contact or telephone contact with NAKL. radio worked but couldn't raise Lab. Telephone did not work. At 1430, however, the plane appeared. FLIGHT - saw very few birds en route some *Larus hyperboreus*. Away from river, snow cover is virtually 99-100% from Atkasook to NAKL.

Barrow, N. Slope Borough, Alaska

tepid 36° at NAKL¹⁷³⁰. No wind. No clouds. Snow melting rapidly. After dinner I censused TS - mostly 99% snow cover but the first units $[(0,0) + (0,1)]$ with less due to proximity to road. *Calidris alpina* and *Calcarius lapponicus* most common birds [see sp accounts and daily list]. According to Terry Hall this is the first nice day, and nice it is. Snowy owls breeding - see sp account.

1 JUNE

Cold again, down to 28° or so at dawn with a strong N wind + clouds. Nothing except longspurs on transects (see summaries). Snow cover 99% over most places including gasline ridge. Shorebirds seen only in flocks along roadsides.

2 June

Getting even colder - 22° at 0600. Never rose above freezing during the day and ~~most~~ all melted water on the tundra is ice covered. Very few birds out there: they have all retreated to the dunes beside the road kept warm by increased absorption due to dust. Especially remarkable is the continued flocking behavior of shorebirds. Dunlin have been here since 29 May (fide G.E. Hall) yet they are still foraging in flocks - up to 30 or 40 birds per flock - by the road. Longspurs are also retreating from the tundra. Melanotos is virtually absent. *Arremonia interpres* also still flocking. ^{B. Vogel arrived}

3 June

somewhat warmer - 28° at 0600, 32° by late afternoon. but the story of retreat from the tundra continues unabated. B. McCaffery arrived today. My interpretation of this whole business is as follows. According to P.G. Connors + others the melt-off is early in southern + central AK, even as far north as Kotzebue + Krusenstern. In fact in Anchorage + Fairbanks I was amazed to see the *Betula* and *Populus* already leafed out, with no snow. Connors told me over the phone today that when he arrived at Krusenstern (26 May), *Pedicularis* was blooming and there was a *C. mauri* with 2 eggs. So the area south of the Brooks are far advanced compared to normal. The North

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Barrow, North Slope Borough, Alaska

3 June
(cont'd)

Slope, in contrast, is ~~either~~ ^{I think that} normal or perhaps even retarded. The difference between conditions south + north of the slope has had an important effect on the behavior of arriving birds. Conditions to the south sped them along - they continued advancing as far as meet would permit, which this year dumped them abruptly onto the N. Slope. And it is so different here that they "don't know what to do". They are here before they should be, and flocks are remaining ^{plus only} flocked in areas suitable for foraging. This is why we see so many Dunlin flocks even though they have been here since 29 May - 6 days.

4 June

a.m. took Brian McCaffery and Ben Vogel into and south of town. It is always an eye-opening tour for newcomers to Barrow, and deserves comment here. Town is a dump, visually, olfactorily, audially. Each house is surrounded by what seem to be tons of accumulated garbage, but what is probably only the past winters. Now that the snow is melting, it is coming to the surface, because it, unlike the snow, doesn't melt. Papers, garbage, wood chips, broken dishes + machinery, + just plain muck. With this there also comes an nose twitching blend of putrifying odor. Yummy! And the noise comes from trail bikes rousing after a winter's rest. But where else could you find shorebirds foraging in the midst of urban life, meters from each house, by each road in all the melt ponds? Throughout the morning a cold easterly wind blew strongly, although the temperature quickly rose above 0°C. We continued south of town to the Freshwater lake. The tundra remains almost 100% covered. Shorebirds remained in flocks. And Stercorarius pomarinus began not only to move by in droves, but also to set up territories (see sp. account). At 1300 McCaffery + I dropped Vogel at the lab, and we went out to the IBP area. By mid afternoon the wind had dropped to almost nothing. Calcarius began to display frequently, and shorebirds ~~were~~ started singing - both Calidris alpina + pusilla let loose with a volley of display, ♂♂ chasing all along the Gas Line Road from Beach Ridge out to the Smithsonian building, and along Voths Creek. On the Gas Line Ridge, however, life was more quiet. We walked out to a Nyctea nest (one additional egg in 2 days) and then returned toward camp. G.E. Hall waylaid us, reporting a Motacilla alba on the Britten area. 45 min of search found us nothing, save 15 Calidris alba and a Motacilla flava. Returned to camp. Went out again at 2130 for an hour, visiting POW-MAIN

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NARL, Barrow, North Slope Borough, Alaska

4 June
(cont'd)

and reaching Browerville south of the Lab. 1 *Capella gallinago*, 1 *Micropalama himantopus*, 1 *Anthus spinoletta*, - all well seen by each of us, as well as a *Riparia riparia*. Today, incidentally, was SWALLOW day: we saw *Riparia riparia*, *Hirundo rustica*, *Stelgidopteryx ruficollis*, and *Petrochelidon phoenicea*. And further, it was THE BIG DAY, replacing 12 June 1976, when we saw 42 spp. Today 50 spp were seen in the vicinity of NARL. Evening ended at 2230 with the *Capella* + a gorgeous, windless sunset.

5 June

Up at 0300 to tape shorebird calls. The weather demands it - no wind, warm, + early in the season with everybody setting up ferrisries. Visited both POW MAIN and 1BP between 0400 and 0600. Recorded *Calidris alpina* and *C. pusilla* - see TAPE LOG. (1978-2). 0710 began running transect 6 with McCaffery, teaching him how to sample our transects. Light E wind, 80% clouds, 36°F at 0700! A balmy day in the making. By 1500 when we returned the temperature soared to 45°F, which must approach the record for early June temperatures. I remained with McCaffery through T6 and T7. Then because of the windless day, I went back + got the tape recorder. Spent 1030-1500 taping shorebirds. See Tape log [1978-2]. *Calidris alpina*, *C. pusilla*, and *C. bairdii* are well represented in abundance. But *C. melanotos* is not - in fact we heard not a single hoot, and saw < 15 all day. Nor is *Pluvialis dominica* as common as last year. The sun shone brightly for several hours around midday, and our faces are beef red from the snow + sun. Went out briefly at 2130 to see a *Tringa flavipes* by POW-MAIN. 2 *Micropalama himantopus* flew by while we were there.

TRANS 1, 3, 5

6 JUNE

Began sampling T5 at 0715. Temp = 36°F, high clouds, no wind. We seem to be in for another astonishing day. And by 1015 the clouds cleared to yield a gorgeous sunny day with hardly any wind. How atypical a June! Then in midafternoon it clouded over + rained for a while, another unusual June phenomenon. What is Barrow coming to? Finished T5 at 1045. In general the transects were quite productive. McCaffery + I logged in

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NARL, Barrow, North Slope Borough, AK

6 June
(Cont'd)

49 C. alpina in 100 ha sampled during the last 2 days. Also 111 Calcarius lapponicus. But melanotos appears to be in sad shape: only 3 of each sex, all today. They appear, however, to be picking up—see sp account. Flying insects about today. Found a Calcarius nest cup almost completed.

PM. — out Barrow spit to Nuuk

At 1830 G.E. Hall, Brian McCaffery and I left NARL headed north via 3-wheeler, destination Nuuk. Weather balmy 38°F with a slight W wind, occasional rain. It actually rained steadily for 45 min this afternoon (6 June ???). On the way we observed that the shore fast ice is heavily puddled now by water, and that nowhere along the spit has it been bulldozed up onto shore in any appreciable fashion. The lead, by the way, has been several km wide for the last week or so, and only a few km offshore. The Nuuk tundra is largely snow free today, although the series of ponds over the gravel girdle are still pretty much snowed in. Nuuk was only moderately productive — a Calidris ruficollis, many Calidris alba (~15), 3 Calidris alpina, 2 Calidris fuscicollis, and at least 10 Calidris bairdii. The dunlin and Baird were the only birds displaying. One Pluvialis dominica passed by, a few Phalaropus fulicarius. See daily list, Nuuk entry. The big frustration came when I was 20 m from G.E. Hall + he called Turdus obscurus — only to have the bird disappear before anyone else could catch a glimpse. We searched the tundra patch for the next 1.5 hrs to no avail.

NARL

1 June

spotted a Hypocichla thrush from the lab window — could not ID
began a.m. by collecting above Hypocichla. It is a H. ustulata, Barrow's first specimen. Out to grids by 0900, late because of collecting business. McCaffery and I censused from 0900 to 1200. Foggy, lifting by mid morning. Temp = 32° No wind. Snow cover now dropping below 50% on both Grids 1+2. Shorebirds very active. melanotos has moved in — see sp account. Found 2 pusilla nest cups.

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NARL, Barrow, North Slope Borough, Alaska

8 June

0700-1215 and 1500-1720 censused grid 2. Another exceedingly warm day with the temperature well above freezing throughout, after starting with a morning frost. Sky clear + air almost windless. Snow cover on grid 2 down to under 20% as an average, although a few units still have 40% or so. Bird activity is intense, particularly among Calceus, and Calidris alpina, and Calidris melanotos as well as Phalaropus fulicarius. In all of them display is very active. Floaters are conspicuous, and introduce difficulties into the censusing procedure. Among the territorial, ^{sandpiper} species, ~~particularly~~ floaters are tolerated to a certain degree even if the resident display actively. Thus pairs of quiet duet in may or may not be localized breeders as yet. The larks are still in the throes of nest building. This spring has been another unusual season (-also but what is usual) with the almost daily fluctuations between hot + cold temperatures. First a ~~cold~~ warm period in mid-May, then a cold one in late May. A few warm days in the last day or so of May followed by plummeting temps for a 3 day period. And now this balmy weather which has persisted now for 5 days + melted most of the snow.

Atkasook on the Meade River, North Slope Borough, Alaska

9 June

1000 reached Atkasook via NARL Cessna 780. Flight revealed that snow melt is largely complete at Atkasook, but progressively less so toward the coast. At Barrow the overall average is ~20-30%. At Atkasook, after some troubles with the crew because of a broken down generator + other disheartening items, Ben Vogel + I went out to begin placing our insect sticky board transects. Placed 12 boards along Transect A, which runs up bird transect #2. See 1978 Invertebrate Observations for a description of the habitats sampled. By the way, I should mention that the river here broken again a massive performance, according to everyone here. It flooded so that our breeding bird plot was under >1' of water as river water coursed down an overflow channel running into butterfly creek. There are massive icebergs everywhere up on shore. Birdwise the place is calmer than I expected. Low densities of melanotos ♂, relatively low numbers of

Generator not functioning 22-24 May
my 7-10 June
19 June
Radio not functioning 22 May → 12 June

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Atkasook on the Meade River, N. Slope Borough, Alaska

9 June
(cont'd)

Calidris pusilla compared to last year. However the density of Motacilla flava is up markedly, particularly right around camp. Phenologically Atkasook does not appear to be far advanced compared to Barrow. For example, Calcarius have just begun to lay. But insect wise it is much further along. Many flying Chironomidae, as well as Plecoptera. Pardosa spiders abundant in the tundra.

10 June

Eriophorum vaginatum - Ledum decumbens habitats

high 30's at 0400, cold light rain, moderate E wind. Cleared by 1400 to very pleasant weather. Spent day fruitfully attempting to set all of the ~~sp~~ insect sampling board positions chosen. Placed transects B, C, + D along bird transects 1, 14 and 10, respectively. Yesterday evening placed A on BT. 2. This placement allows us to monitor insect emergence + activity in a wide variety of habitats which can be related to bird activity. See insect transect accounts re specific locations of plots. Shorebird activity at low level throughout tundra. Heard little quillquid today but ran in to 2 centers of maui activity. Bateleur plovers calling. Melanotos hooting only over lowlands.

Returned to NARL; Barrow via Cessna 180 at 2000 hrs. Note - the generator at camp did not function 22 May → 24 May, nor 7-10 June

11 June

0600 out to run transect 5 and track melanotos. The first went successfully. The second was not: few ♂ melanotos apparent on either grid 1 or 2, and even fewer ♀ melanotos.

12 June

taping behind NARL 0430-0630. Concentrated displays by Calidris bairdii. See tape log 1978-3. Continued taping 0800-1030 beside Voth slough. Both bairdii and alpina were very active in vocal display. Spent much of rest of day playing bureaucracy. Evening out to Nowuk (2130-0200), a trip unordinarily prolonged by non-functional 3 wheeler. Classic Barrow fog, making visibility next to nothing. McAffery + I went out because Terry Hall reported a duck bird he could not identify at Nowuk. We found it, but failed to see it well enough either for ID or to collect it - I chased it with a shotgun for 2 frustrating hours without ever seeing it before it flew. The fog was pernicious and cold as well.

Journal

NARL, Barrow, N. Slope Borough, Alaska

13 June a.m. Trip to Nuwuk to return 3 wheeler + to make another attempt on the chicken-bird's life. Task (1) successful. #2 a bust. Weather was better, with the fog up and wind down. But we did not see the bird. Last night both McCaffery + I saw ~~a~~ that it was wheatear size + shape (but more Geositta like in shape than Oenanthe), thin bill, lighter outer tail feathers, no sound (absolutely silent) and olive to something a little more yellow below. Too large for a Phylloscopus.

pm. Worked on Grid 3 census from 1130 - 1730. Alpina active in display, with approximately 5 ha/turkey. Melanotos displaying occasionally but I saw ~~no~~ ^{on the ground} no ♀♀ in whole time. Calcaricus in flight display frequently. However there are many floaters around, sneaking around making interpretation difficult. see Calcaricus sp. account.

14 June a.m. got everyone going on tracking ♂ unclonates. McCaffery & I worked Grid 1, Shuford Grid 2. But for all the effort there are damn few unclonates and they act singularly uncooperative. The birds that we worked on had 0 ♀ - see tracking data. Brian's was actively displaying, interacting with 2 others, but Davis + mine had almost no display activity. see unclonates sp. account. Morning was foggy-ish (not excessive), 33°, with a N wind building. I found 4 *C. pusilla* nests, 2 *Calceonius*, and one *C. alpina* while foraging over the grid.

p.m. Frank Pitelka appeared today, a real vagrant from parts south. In fact he is fresh out of Germany, so he qualifies as one of our more distant visitors. ~~At~~ 1530 I went out again to continue work on meanderets. Wind is picking up from the east.

15 June tracking on Grid 1 a.m. and p.m. From NE wind blowing up to 25 mph, ~28° at dawn, clear skies when it got for today's clear skies it would be unpleasant indeed. The high steady wind and low temperature make

SP Myers
1978

Journal

NARL, Barrow, North Slope Borough, Alaska

15 JUNE
(cont'd)

Life out on the tundra less than comfortable. Somewhat to my surprise, therefore, everyone had a good day in the field: McCaffery and Sheford ran transects (all same B5), FAP censused Sticcorarius pairs (see sp account) while I tracked a ♂ melanotos. Bird activity levels were definitely higher than anticipated - for example the ♂ melanotos looked regularly + gave frequent chase. McCaffery ran in to a center of melanotos activity out along T9 at T10. He also found a fuscicollis nest. Apparently the transect region around T9+T10 contains many melanotos and Phalaropus fulicarius. That is especially interesting because of their low numbers there last year and the overall low density of melanotos here this year. In 1977 we had few of either melanotos or fulicarius, especially on Grids 1+2 compared to 1975-6 densities. Grid 3, on the other hand, had good RP numbers, and I even found a ♀ there from 1975-6 on Grids 1+2 (banded by Schaniel). I interpreted this last year as indicating local shifts in hot spots: 1975-6 the Grids 1+2 were good (so was 3). 1977 the phalaropus moved to Grid 3, so that our ~~abundance~~ (lower abundance) of RP's was strong on 1+2, but perhaps peculiar only to them. So this year we have low melanotos #'s on the Grids 1+2, but (according to McCaffery) very well developed hot spots out on T9+T10. And as I observed above, T9+T10 were dead last year. What causes these local shifts? One hypothesis is that the location of settling is controlled by melt-off: perhaps a 'piper' such as city not 100% clear, but something with some critical % cover value, something between 0 and 100. Locally there are important differences in melt-off. Grids 1+2 may have passed the critical level when ♀♀ arrived, so they moved on. T9-10 were later 2nd type - low density last year meant low cropping rates + thus higher densities of larvae this year! That would be something!

NARL → Atkasook on the Meade, N. Slope Borough, Alaska

16 June

Flight via single offer this am. To Meade River. We are carrying supplies, John Krouse (pilot), me, and an expediter. Krouse is to return with John Costoris and Bill G. Glooge, USGS people monitoring river water levels.

JPMycos
1978

Journal

NARL → Atkasook on the Meade River, North Slope Borough, Alaska

16 June
cont'd

The flight was uneventful. We flew at 300' the whole way, allowing me to ID occasional birds. Sighted Nyer to ~30 miles south of Barrow. One pair of *Somateria fischeri* just south of the Gas Well at Barrow. *Pluvialis squatarola* just north of the Inaru River. Melt-off virtually complete, save for a few isolated snowbanks in bluffs areas. Water receding in all rivers; the water has also cleared markedly, no longer a silky mud brown. Almost all lakes are melted, except a few large ones. Last flight I was struck by the very curious distribution of ice-melt: 2 adjacent ponds of seemingly identical size might differ widely in ice melt, one ice-free, the other still solid.

Atkasook on the Meade, North Slope Borough, Alaska

16 June
(cont'd)

Arrived ~11 am + had immediate confrontation with Vogel re sampling effort. Potentially resolved by 1400. I spent afternoon re-wiring pack frames for new boards, etc., and then went out at 1700 and again at 2100 to return old boards from Insect Transects A+B. Temperature warm (8°C), partially cloudy with long periods of sun, and a diminishing wind which had been running an excess of 25 mph for 2 days from E. The sticky boards were largely empty, although the ones in low wet habitat were accumulating small numbers of muscid flies, some mycetophilidae, Irigoid and Pardosa spiders, I had hundreds of collembola. None had collected any bumblebees even though bees are one of the few conspicuously active insects now. Re birds see 17 June entry - I'll wait.

17 June Off to run transects 6-10 by 0630. Began 10 at 0710. temp: 3°C, partially cloudy (20%), moderate E wind blowing ~10 mph. Finished transects at 1430, back to camp by 1500. 1100 collected boards from Insect Transects C. 2000 flew to Barrow. By evening it was raining intermittently at Atkasook. The wind never abated during the day, and the temperature rose to ~6°C by mid-afternoon. Bird activity is generally lower, both compared to my last visit (10 June) and to last year. This is ~~is~~ reflected in the transect summaries and also qualitatively. Below is a summary of my qualitative impressions after today's transects + yesterday meanderings:

JPMyers
1979

Journal

Atkasook on the Meade River, North Slope Borough, Alaska

17 June
(cont'd)

1st handle shorebirds first:

Pluvialis squatarola - thinly distributed but regular over most of the study area. Displays now infrequent. commonly chasing Sticcorarus spp in flight. #s as last year

Pluvialis dominica - probably not as common as squatarola, but in same range of density. ~~perhaps~~ fewer around than last year. On nests now. I still am puzzled by the habitat distinctions between the two Pluvialis spp. They overlap heavily. Why squatarola is not at Barrow is a puzzle, as pairs definitely forage in lowlands as we ridges no higher than Gasline at Barrow. Perhaps they "require" the overall increased ~~topography~~ topographic relief.

Arremona interpres : as last year is very sparse. Possibly 2 pairs along transects 6-10.

Calidris melanotos : sparse compared to previous year. Habitat very restricted this year to low wet swales - e.g. T6, T11 ^{not} and the 2nd halves of T10 and T14. In these sites one is certain to see one or two ♂♂ plus an incubating ♀ or two. These are sites in which you are guaranteed a PS or two. But they are much more sporadic in other sites. Areas along T8, T9, and T7 which were graced with PS's last year this year are without. And the ♀ population is also lower. I saw 2 ♀♀ w/ nests. One definitely, even though I failed to find the nest - she was giving a ♂ the tail-fift display.

Calidris alpina - perhaps one of the few species more abundant than last year, but not markedly so. Highest density along Transect 9 in non-heath polygons dominated by Carex aquatilis and Vaccinium vitis-idaea/ Salix phleopphylla uplands.

Many are on nests and molting, but along the sandy ridge at T9 I found what seems to be a flock of non breeders. Most, if not all, molting primaries.

My impression of alpina abundance may be overly influenced by events on T9.

Calidris pusilla - undeniably reduced in number. more restricted in habitat, being most common in the sandy areas dominated by Carex aquatilis, laden with moss, and near a lake margin. Also in ~~hard~~ heathery sites used by mauri.

JPM Myers
1978

Journal

Atkasook on the Meade River, North Slope Borough, Alaska

17 June
cont'd

Calidris mauri - common but patchily distributed. Intense centers of display activity scattered over transect system, but there are also large lacunae in their distribution. Prefer - possibly restricted to - strongly heathy slopes & above lakes, ponds or streams.

I would guess they are quasi-colonial. Intense aggression continues at this date.

Tryngites subruficollis - approximately as last year. Display activity only in one area (T8-9) with 5 birds seen today, including 2 displaying ♂♂.

Limnodromus scolopaceus - scattered thinly throughout both low areas or low center polygon systems. About as last year in density. Pairs acting as if on nests in the margins of Carex ribbons.

Phalaropus fulicarius - down in density from last year, but how much I am unsure.

Phalaropus lobatus - common + in midst of breeding activity. ♀♀ chasing ♂♂ in the low wet habitats.

Barrow, Alaska

18 June

Lousy E wind continues strong today, although it is somewhat weaker. We tracked P. melanotos today a.m. + p.m., see melanotos sp. acct. They are thicker than just 2 days ago. In the afternoon - it being sunny and warm - the town of Barrow dispersed across the tundra, mixing the screams of kids + sounds of guns to all the local polygons. Not the sort of vision I enjoy. A hazard of Barrow fieldwork, one not to be taken lightly because of the damage that children can + will cause.

19 June

no wind, so ~~pm~~ 0500 I'm out in the field taping ♂ melanotos. Clear, 33° F. ~~and~~ I obtained a stupendous series of tapes of ♂ melanotos - hoods and grook display. During the morning I then handled various bureaucratic chores: the Meade River ~~generator~~ generator is down, their water pump doesn't work, etc. 1300-1500 tracking melanotos on Grid 2. see melanotos sp. acct.

20 June

Out in the field at 0400 to tape, but foiled by wind. Returned to field at 0700 for sampling transects 6-10. 33°, light wind dying to northerly gyphs. 100% low clouds w/ occasional snow flurries. The transects were very productive today -

J.P. Myers
1978

Journal

NARL, Barrow, North Slope Borough, Alaska

20 June
(cont'd)

in 5 km I logged in 21 ♂ melanotos, 22 alpina, 28 fulvica, etc.
See melanotos & accent re melanotos activity. Also saw fuscicollis, canutus
and Trypeta subruficollis. Lemming cropping in areas near T9 is very heavy,
the ♂ ^{arctic} fox passed me by on its way to the den on Voth Slough. It was
so laden with Lemmus that I thought at first it had a ♀ Polystictus in its
mouth.

21 June

spent day largely indoors after an early morning taping session. Cold, with Temp
at 0400 around 25°C. Wind picking up during the day.

2

22 June

Mladek River at Atkasook, N Slope Borough, Alaska

Pittka + I flew to the Mladek River camp today at 0900 for a brief tour of the
study area. Weather not at all conducive to picnicking, with winds gusting over 35 mph
and the temperature around 0°C. The only consolation is that conditions are worse at
Barrow (temperature ~ -2°C). After a lengthy BS session with Johnson and
Vogel, Johnson, Pittka and I walked ESE to the breeding bird grid. Saw
appallingly few birds, mostly due to the wind. Phenologically the place is
becoming well advanced: several flowers in bloom including Anemone,
Arctostaphylos, Diapensia, ^{Pedicularis} Carex bigelowii in flowering, the willows are
willowring, and green appears at the base of most shoots. We found one nest
of Calcaris partly hatched. Returned to camp at 1400 + conferred
during the afternoon with Vogel re insect business. Flew back to NARL at 1700
on a very bumpy return trip.

NARL, Barrow, N Slope Borough, Alaska

23 June

indoors all day because of wind. Yeah.

24 June

up at 0330 to see the windless day. Temp on No wind, but temp at
0400 = 24°F. Low clouds occasionally turning to fog. Taped Calidris posilla,
C. melanotos on 640 1 before breakfast

0900 out tracking ♂ melanotos. It appears that some boundaries may have

JP Meyers
1978

Journal

NARL, N. Slope Borough, Alaska

24 June
(cont'd)

shifted, particularly in the area where Brian McCaffery is tracking ♂ on Grid #1. See tracking data. Otherwise the grids are dead, both for melanotos and for other shorebirds.

1630-1800 tracked ♂ melanotos on Grid 1. see Species account

Today was quite a cold day, with the temperature remaining below 0°C throughout. Snowflurries fell all day, and the tundra ponds had thin sheets of ice over them until mid-morning.

25 JUNE

tracked melanotos 0755-1200. Cold, blustering and snowy day on Grid 1: ~30°F, E wind 10 mph, 100% clouds with intermittent snow, sometimes interfering with work. The grids are dying, with activity dropping to new lows — I suspect that some of our ♂ melanotos are even leaving already. See melanotos sp account. Display activity in other species is also dwindling. I heard no alpine display today. There was one flurry of puzilla display. No Pluvialis song either. However Phalaropus fulicarius remains paired in many local ponds, and the Polystictus continue to fight with one another.

pm - 1600 van T3 and collected the used sticky boards. More snow, but the wind was warmer.

melanotos activity picked up somewhat.

26 JUNE

sampled transects 6-10. Weather pleasant - 32° at 0700, light E wind, ^{scattered} clouds. Nothing startling in the sampling, with totals normal and activity levels declining in all species. Saw the first flocks of migrating ♂ melanotos today. I am perplexed, however, by the absence of any sign of movement in ♀ Phalaropus fulicarius.

27 June

good weather at last! 0600 33°, sunny, no wind. McCaffery + I went out at 0630 to photograph a C. bairdii on its nest - one of those incredibly tame individuals made for taking pictures. Returned to lab at 0800 to help shepherd Ptelera to the airport - he is headed south today. At 1100 Brian and I went out again, this time to diddle with melanotos. we took a clutch from a banded ♀ and also tracked ♂♂. See melanotos sp account.

SP Myers
1978

JOURNAL

Atkasook on the Meade River, North Slope Borough, Alaska

29 AUGUST

I'm back at Atkasook to gather in the crew. Shuford, Vogel + Johnston have been here all summer, except that Shuford was forced to leave a week ago when his father died. I flew in from NARL yesterday at noon, having reached Barrow the night before. My task is to corral the field units, clean up camp, finish the sampling, and split. Yesterday I spent the afternoon cleaning camp. Then this a.m. I ran transects 1-4. The results are as I anticipated: precious few birds remain on the tundra. I saw ⁵ species of shorebird - Pluvialis dominica + P. squatarola, Calidris melanotos + C. alpina, + Phalaropus fulicarius + Ph. lobatus. All were juveniles. (see daily list for totals) None were common. ~~At~~ On sampling 40 ha I recorded only 1 shorebird - a juvenile C. melanotos. The tundra is remarkably wet - remarkable, at least, in comparison with the last several years. Many low center polygons still retain water. All are saturated in their centers. The river still has an appreciable breadth to it, being some 20m wide at camp. According to Vogel it has rained prodigiously here in the last week. That would ~~probably~~ account for most of the standing water, but all summer I've been getting reports from McCaffery in Barrow that it has been a wet, ~~and~~ cold August. The temperature this a.m. while I sampled was pleasant - 8°C, almost no wind, puffy Meade River clouds. But around 1300 a strong W wind picked up. I fear it portends a serious change in the weather, as large dark + fronty looking clouds are approaching from the west. We shall see how it develops (obviously). The most interesting ornithological note concerns the Gavia chrois - all 3 spp are crying loudly + constantly - flying overhead, landing in flocks in the river, etc. Well, not all 3 spp are flocking in the river - only arctica. But nonetheless all 3 are extraordinarily active.

SP Myers
1978

JOURNAL

Atkasook, on the Meade River, North Slope Borough, Alaska

30 AUGUST

sampled T5, 11-14 This am beginning at 0600. Temperature a mild 8°C at 0600, rising to 13°C by 1100. Almost no wind, clear sky. Sunrise was among the most enchanting I have seen at Meade, with each depression in the tundra filled with a thick morning fog.

Very little bird activity: the most ~~abundant~~ numerous species was Calcarius, but even these were not common. As yesterday, all 3 Gavia spp. were conspicuous because of their incessant vocal activity. The warm temperatures today appear to have set the stage for vocal display in many species: the 3 Gavia, both Lagopus, Calcarius lapponicus, Passerculus sandwichensis, and Zonotrichia leucophrys all sang. After rowing in from the transects I cleaned camp until the last of 3 flights at 1600. Then off to NARE + done with Meade River for 1978, and perhaps forever. See 1978 Meade Phenology accounts for description of spp. status.

JP Myers
1978

Branta bernicla nigricans

Atkasook on the Meade River, N. Slope Borough, Alaska

- 28 May one flock of ~40 flying NE over the tundra at 1500 hrs. Barely skimming the ~~surface~~ surface as they fly upwind into a 20 mph + gale.
- 29 May another day of Brant migration.
- 30 May I saw no Brant today. Shuford and Johnston saw 4.
- 12 June NARL, Barrow
1 perched out to NE of South Meadow Lake.

JP Myers
1978

Lagopus lagopus

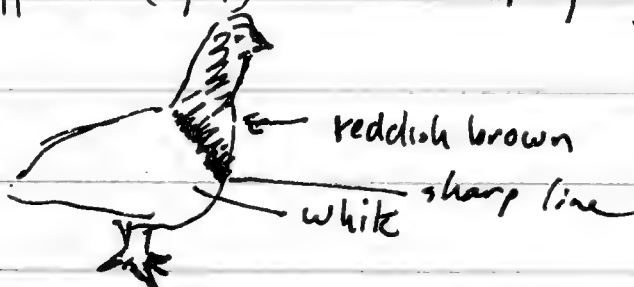
Atkasook, Meade River, North Slope Alaska

22 May

~~2230~~ 2230 ♂ Lagopus L. gave flight display over Meade River. Solitary.
Saw one other this evening, a quiet bird by river bluff.

23 May

scattered L.L. by river bluff at (16,41). None displaying. The ♂♂ are all in good breeding plumage



The ♀♀ have begun to ~~become~~ molt out of winter plumage with heavy mottling on the head & along the body.

24 May

2 ♂♂ in border display strut. One ♂ incompletely molted into its breeding plumage, still retaining white feathers in the crown. I suspect that if the weather were to turn we would be hit by a flurry of ptarmigan breeding displays.
1 good flight display.

evening (2000-2230) frequent display by ♂♂ along river bluff near (16,41). It appears that many ♂♂ are on territory & protecting ♀, but that there are some that aren't.

25 May

walking transects today. Lagopus L. restricted to within ~200 m of areas melting early, especially by bluffs. This was very clear today because from the beginning of TL through to unit ~~1~~ ² of T4 there were no ptarmigan. There had also been virtually 100% snow cover. But at T1 of T4 we came to an exposed patch running along the rim of Pingo Lake. And ~~was~~ ^{was} there was a young ptarmigan ♂ displaying all over the tundra in sites such as this, particularly by the Meade River bluff.

30 May

a flurry of Lagopus lagopus activity this a.m. around the W end of the airstrip. This is where eskimos were hunting ptarmigan several days ago. ♂♂ chasing ♂♂, ♂♂ chasing ♀♀. Flight displays. Have we witnessed an experiment in the removal of territorial birds??
I watched one ♂ ~~for~~ harass 2 ♀♀ for >5 min, aggressively chasing them. It seemed as if he was removing them from the territory. Also saw 3 ♂♂ chasing each other in the air, flying far beyond ^{what must have been} the territorial boundaries of any single one of them.

JPHyers
1978

Lagopus lagopus

Atkasook on the Meade River, North Slope Borough, Alaska

10 June

♂ Lagopus l. very conspicuous now over the entire tundra. Considerable vocal activity and quite a bit of territorial aggression. Watched a pair of ♂♂ running repeatedly up and down their border during p.m. How ungainly, almost a hind to find in so remote an area! It ~~also~~ belongs in a turkey farm.

17 June

♂ Lagopus molting to summer plumage. ♀♀ in nests. But ♂ territorial activity continues. I heard many displays while running T6-T10, and came across ~~one~~ a flurry of border battles on the breeding bird plot.

JPMeyer
1978

Lagopus mutus

Atkasook, Meade River, North Slope, Alaska

23 May

♂ + ♀ L. mutus on exposed bluff at (16,41). The ♂ shuck by the ♀ as we pushed them around. ♂ pure white. ♀ mottled. Another solitary ♂ ~200 m away. Gave abbreviated flight display (like a Gnaathopus petersii). ~~Both~~ Both these sightings ~~app~~ occurred within general area where we also saw a number of Lagopus lagopus.

24 May

^{afternoon}
1 good flight display.

evening (2000-2230) by (16,41) = 3 or more solitary territorial ♂♂ along the river bluff displaying + moving w/ single ♀♀. Saw one mutus ♂ chase off a lagopus pair.

25 May

frequent display activity by river. One ♂ with 2 ♀♀, shepherding them both.

30 May

by this date we are hearing mutus infrequently. Heard one this morning give flight crack.

17 ~~May~~ June

heard 1 ♂ call along the river this am.

JPVHys
1978

Pluvialis squatarola

Atkasook on the Meade River, N. Slope Borough, Alaska

28 May

1 ♂ flying upstream along the river in front of camp at 1300 hrs. Year's first.

29 May

a flock (!) of 6 squatarola plus 1st individuals, making the black-bellied plover again a common Meade River shorebird. One displaying by the airstrip at 0830. Others ~~distributed~~ distributed along TS + 2 by the end of T11.

30 May

Compared to P. dominica, squatarola is both infrequent + quiet.

31 May

♂ displaying consistently by W end of runway. I happened to be there at 0830 when a solitary ♀ flew overhead. The ♂ (~~watched~~ watched) mateless) did not give chase. Instead it repeated a simple, plaintive display call with a single minor key whistle (whew... whew... whew) about 1/2 seconds as the ♀ flew by.

17 June

see journal

JPMYers
1978

Arenaria interpres

Atkasook at Meade River, ^{North Slope} ~~Barrow~~, Alaska

- 24 May 1st positive ID for Meade 78 shorebirds: 5 Arenaria i. flying across Willow Creek at 1500. One landed in view.
- 25 May 2 by landing strips, ceiling + on ground.
- 27 May 11 in one flock near camp
- 28 May 10 by Bunnell's (across willow creek from camp at (10,42). They appear to hang out there with a gaggle of Larus hyperboreus, probably because Bunnell has several dead caribou lying about.
- 29 May scattered individual turnstones moving about.
- 30 May flock of Arenaria still clustered around Bunnell's caribou carcasses. 10+ birds.

Barrow, W. Slope Borough, Ak - Gasline Road

- 3 June counted one flock of 27 Arenaria foraging relatively placidly today. As other shorebirds, Arenaria have yet to move out onto the tundra and display.
- 11 June Arenaria well dispersed over the tundra and in full breeding effort. Chasing jaegers commonly. Also chasing each other. Saw one border dispute on Grid 2 involving 2 ♂♂. Display included fight on ground with back feathers raised, tail and head lowered.

Atkasook, W. Slope Borough, Alaska

- 17 June see Journal

SP Myers
1978

C. melanotos

North Slope

Atkasook, Meade River, Alaska

23 May

1 possible melanotos flying low over the tundra today, downwind to ESE.

28 May

the first definite melanotos today: I saw it flying downwind (west) at 1400 hrs. Probably a ♂ by the size of it.

29 May

see journal re change in weather. melanotos arrived today in number. ♂ + ♀. no display activity. moving in 2's or 3's or even small flocks up to 5. impossible to identify a dominant direction.

30 May

again many melanotos moving today. began at 0500 w/ two roosting in a flock of Ploceus dominica by camp. throughout the day, especially 0800 - 1200, small flocks buzzed back & forth, none seeming to settle down. At 1030 3 ♂♂ flew by + landed briefly. Just before they landed one began pumping its chest as if to hoot, ^{3 secs or so} but no sound came out. The form of the hoot motion was correct, however. 1500 - fewer melanotos flying this afternoon, but they are still moving by. Heard one good hoot.

31 May

several hooting ♂♂ observed during a.m. around the runway.

Barrow, N. Slope Borough, Alaska

3 ♂♂ by Gasline Road this p.m. Terry (G.E.) Hall reports they arrived yesterday, when he and Mark Chapman found a male in Barrow itself.

1 June

no melanotos on the tundra away from melt spots by the road.

2 June

saw no melanotos today.

3 June

2 ♂ by the road on Gasline today. Nothing on the tundra.

5 June

sunny + warm today - see journal. - but the only melanotos seen were a few small flocks flying over or stopping briefly. I am appalled by the # of melanotos. Not one recorded on the transects.

6 June

several ♂ melanotos reached the area last night + are setting up on G210 1. Heard several hoots while sampling T5. Saw a squabble of 3 ♂♂, all trying to hoot over the same pond. But away from this area - e.g. Gasline Ridge - I saw none.

$$6.5 \sqrt{1.62}$$

JP Myers
1978

Calidris melanotos

NARL, North Slope Borough, Alaska

- 7 June melanotos ♂♂ setting up today on Grid 1. Active hooting, several intense grouse displays. However area around (0,6) and (1,6) is still confusing: NTB ♂♂ present plus one hooting ♂. Also signs of ♀♀ - at least 6 on the grid.
- 8 June GRID 2 hopping today - large # of ♀♀ (10+) along with active ♂♂ and incompletely developed ♂♂. Judging from level of activity it ~~was~~ could be a good Pectoral year.
- 12 June the activity of several days ago has waned - a fact made apparent in the last breeding transect run (10-11 June). Also conspicuous today on grids 1 + 2 when Dave + Brian detected fewer than 6/50 ha. (6 to 8 ♂). Very few ♀♀ around also. (Whether I attempted to track a ♀ on Grid 1 + found myself unable to do so in the weather because of the enormous size of the bird's territory - over 8 ha. What hurts most is the fact that 7-8 June it looked to be a good year; save for the anomalous presence of numerous non-territorial ♂♂ incompletely developed in chest structure.
- 14 June tracking in earnest. 2 ♂♂ on Grid 1, 1 on Grid 2. Take One of them, 1B-1, is quite active in display, according to McCaffery who tracked it. The other 2 spent almost all their time feeding in a few discrete spots. It was, in fact, quite difficult to track them because they would feed for a long time without any display, and then quickly + quickly move to another spot in their territory several often 100-200 m distant. Once there, they again resumed feeding inconsistently. McCaffery's ♂, on the other hand, alternated regularly between bouts of display and periods of feeding. None of them, however, had a ♀ on the territory. ♀♀ in fact are quite rare. Occasional ones fly by, pursued by local ♂♂. But traveling ♂♂ appear to move past just as commonly or even more so. They too evoke chase.

15 June

Atkasook

17 JUNE

see Journal

NARL, N. Slope Borough, Alaska

18 June

tracking a.m. + p.m. on grids 1 + 2. Activity increased tremendously on both grids compared to previous days. A new ♂ may have arrived on 61 (17B-6). On the other hand, it

J. P. H. G.
1978

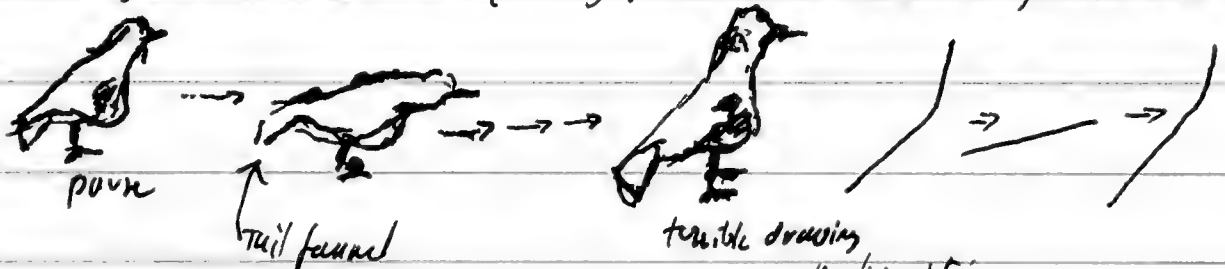
Calidris melanotos

NAIL, Barrow, N. Slope Borough, Alaska

18 June

may simply be asserting itself. It also present for a brief period during the beginning of the tracking session of ~~both~~ the bird, which could be picking up display activity. Pitter, Shuford + McCaffery all recorded higher melanotos activity yesterday around the various grids as I was at Made River. Today I concur. Further, many partially developed ♂♂ are still moving about, ~~the~~ the only thing lacking are an abundance of ♀♀. The 3 birds I tracked today (6-18-78-1, 3 and 4) were all displaying actively, largely in border displays + ♂-♂ chases. Floaters intruded ~~and~~ regularly.

~1700 tracking 6-18-78-4. It just engaged 1978-7 (which Dave Shuford is tracking simultaneously) within in a border dispute, first 11 flutter flight then 11 border march followed by direct + violent grappling with bill + claws. battering one another w/ wings out + tail fanned. The border march involves each of the birds running forward several (5-10) paces with neck down, then raising it up



~~spread~~ repeatedly. wings slightly lowered, out of covering, ~~are~~ prepared to strike. As one of these birds runs forward, the other may do so also, usually separated by ~20 cm when running. Often they alternate, one running + then the other. Other times both of them go slowly. ~~but~~ they go through a series of these runs, back + forth, then take off in a 11 border flight, the fluttering variety, feet dragging slightly + tail fanned, flying along the border line. They may do this for 5-50 m, 1-3 m off the ground, usually 1-2 m apart in the air, sometimes closer. Chest is hanging and inflated when they fly. back feathers raised in 11 border march. In the march they point with the neck, in a side head sunburst.

19 June

see TAPE LOG ^{1978-5 side 1} for notes on vocal displays this a.m.

SEE Dave Shuford's notes re ♂ NEST COP DISPLAY

JPMyers
1978

C. melanotos

NARL, Barrow, North Slope Borough, Alaska

19 June
(cont'd)

Activity level on the grid is definitely still rising, with ♀♀ appearing + poorly developed males still cropping up frequently.

20 June

Incredible density for activity level of ♂ *melanotos* recorded today on T10. In 60 min I recorded 36 hoots within 200 m of transect line. Many ♂♂-♀ chase.

24 June

Tracking ♂ *melanotos* on Grids 1+2 today. See tracking account. Purs session intriguing because we had a ♀ behaving in a receptive fashion: she did not shrink from attention of 3 distinct ♂♂, i.e. they displayed to her as she moved across their boundaries and throughout she failed to give the tail-up, tilt-tail display, ^{or to} ~~indicate~~ ^{or to} indicate aggression via audible vocalization. I was struck by the fact that she remained near the boundary I shared by ♂♂ that Brian + I were tracking. Further, she remained conspicuous throughout - none of the normal *melanotos* quiet stealth. It was almost as if she sought out exposed sites + dabbled in full view, all the while near the boundary. ~~Then~~ At first she was on the territory of the ♂ I tracked. She moved across into Brian's male's area after ~ 15 min. While she was on mine my ♂ looked over her. Brian's ♂ did later. Then finally a 3rd ♂ got into the act as she wandered past (2,8). A series of violent fights ensued, ending with Brian's ♂ + my ♂ disappearing, + the ♀ remaining w/ ♂ 3, who then hooted over her several times. Brian and I searched the territories of our respective ♂♂ without finding them -

25 June

Tracking on Grids 1+2 today. In one episode, tracking a ♂ on Grid 1 (1928-11) the ♂ remained active throughout. He has a ♀ nesting there w/ 4 eggs.

26 June

Flock of 8 ♂♂ in the low wet area by T9 this morning

27 June

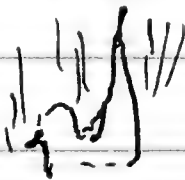
an experiment! we removed the clutch of ♀ PS# on PS1 on Grid 1. She is ^{she was away when I took the eggs, + returned unsuspecting + unalarmed} banded. we want to see if she will re-lay, + if so, with which ♂♂ does she consort. ~~note~~ Eggs taken at 12:15 pm. I watched her for 1.5 hrs, during which she repeatedly came in to the nest, behaving as if she expected everything to return to normal. Her first reaction was to dig up to the bottom, settle down + rustle


JPMyers
1978

Calidris melanotos

NARL, Barrow, N. Slope Borough, Alaska

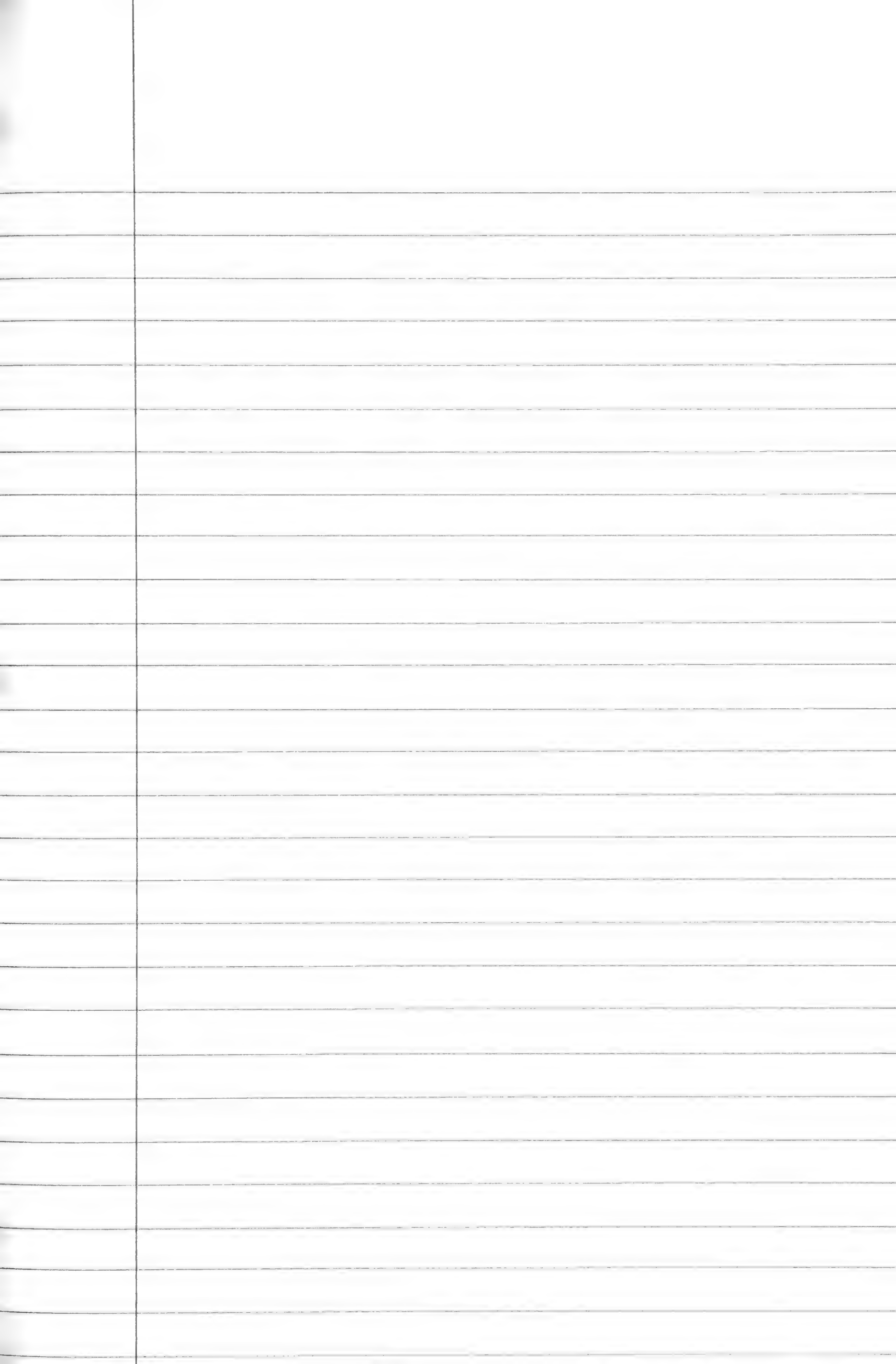
about, as if the eggs were there but simply buried. In doing this she shook her tail almost vertically in the air:

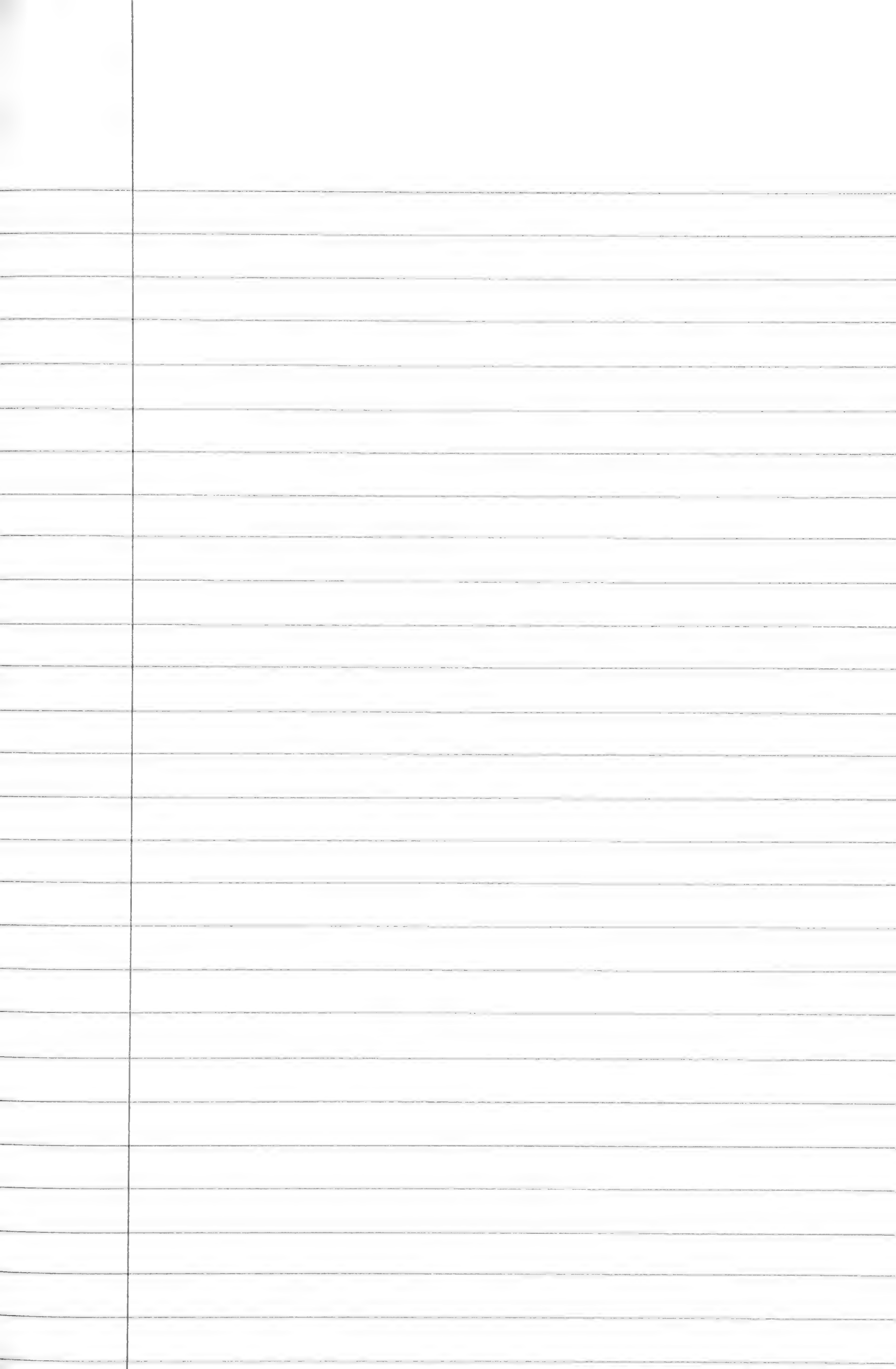


The white under tail coverts show ~~brilliantly~~ brilliantly. The resident ♂ responded quickly to her increased activity level, flying over + looting by 1245 + then remaining locally. Actually - the sequence of events was more complicated than that: ^{she} ~~she~~ dug around repeatedly, alternating between the behavior above + nest building, where in she picked material up in her bill + threw it over her shoulder. Every so often (once / 3-4 min at first) she got out of the ~~nest~~ nest + walked around, only to return quickly. Then at 1245 she flew off in a manner very similar to the ♂ sloop flight - wings crooked,  After 2 occurrences of this (the whole bit, settling in to the nest, working it, getting off, moving around, flying away) she flew over the North Creek ~ 150 m away. Until that time she had never strayed more than 75 m from the site. ~20 min later she returned, pursued by a ♂. She went almost directly to the nest, got in, but got out immediately. That apparently did it, as she did not go again into the nest as I was watching. Instead she foraged quietly nearby. When the ♂ approached, she gave it the tilted body signal meaning hands off. I left at 1345. At 1800 she was still there, as was the ♂. She still was not receptive to the ♂'s advances.

tracking a ♂ — saw a brief nest cup display, given without ♀ anywhere nearby. ♂ simply settled down and winged a typical calidridine — tail ^{up — see Fig. below} ~~cocked~~. No sound. I looked at the depression + found it unconvincing — barely perceptible in the tundra. Perhaps that's why he has no ♀ (I suggest forcefully) ! white under tail coverts conspicuous.







JPMyers
1978

Calidris mauri

Atkasook on Ulladale River, N. Slope Borough, Alaska

29 May

1st westerns of the year, flying in small flocks on the tundra, landing by camp. Brief hint of a display by a bird near the airstrip

30 May

The displaying bird at the W end of the strip has multiplied and become 4 minimally. By 0800 they were displaying constantly, chasing in flight + giving full expression to the buzzing song. Watched one ♂ (by behavior) as it flew up + hovered over us, singing: its legs were not hanging, ~~was~~ even though the body angle was far from horizontal. It ~~then~~ gave the song in flight, hovering, then again in chase with 2 other ♂♂. 1500 returned to the same spot. Display activity down considerably. One ♂ still calling 1/5 min or so. It was most intent, however, on feeding. At one point it flew up, circled around, + then gave the song on the ground.

17 June

see journal

NARL, N Slope Borough, Alaska

J. P. Myers
1978

Calidris pusilla

Atkasook on the Meade River, North Slope Borough, Alaska

29 May

⁰⁶⁴⁵ The 1st pup of 1978 is a pusilla, nestled down between tussocks by the end of the airstrip. It responded to my approach by giving an alarm whinney, suggesting it may be localized already. There were no pups at this spot until this a.m. Throughout the rest of the day I continued to see pusilla on any number of bare spots between camp and transect 11. Small flocks of pups also flew by. Very little display activity, although I did hear the beginning of a motor ^{boat} call.

30 May

pusilla conspicuously absent today. By 1630 I have seen none, nor heard any.

1730 ♂ suddenly appeared singing on runway. At 1830 I walked to Atkasook (see journal) found 10-15 pusilla by town, including a small number (4) displaying in the air and chasing.

31 May

pusilla still not conspicuous by camp. display activity continues near town

Barrow, N. Slope Borough, Alaska

pusilla scattered in flocks along roads where snow has melted. At least 2 ♂♂ chasing on Grid 1, briefly around 2100.

1 June

no display activity. None away from roads

2 June

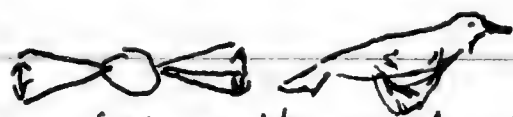
pusilla seen only by roads. one displaying briefly at POW MINE

3 June

same as 2 June

5 June

pusilla have moved onto the tundra, largely, in fact, since yesterday afternoon when McCaffery & I perused the tundra. On the 4th there were pusilla displaying all ~~the~~ along Voth Creek to the falls. today they are there as well as on Coastline Ridge. ♂♂ heavily into chasing one another, series of 3-4 reeling high + low over the tundra, parties of 3 intently, ferociously pursuing over distances exceeding 200m. ♂ in intense tail up display to ♀♀, occasionally erecting wing. Watched one ♂ in flight call - motorboat song - alternately hovering + gliding



not opening wings more than shown in diagram, body slightly tilted, tail fanned, feet up against the tail (not dangling). After motorboating for variable duration often > 1 min they glide down in V wing posture, frequently silent but occasional giving call somewhat like ~~manch~~ Dunlin

SPHyrus
1978

Calidris pusilla

Barrow, North Slope Borough, Alaska

5 June
(cont'd)

falling call but more rolling - see Tape Log of # 1978-2, near end.

Atkasook on the Uleade, North Slope Borough, Ak

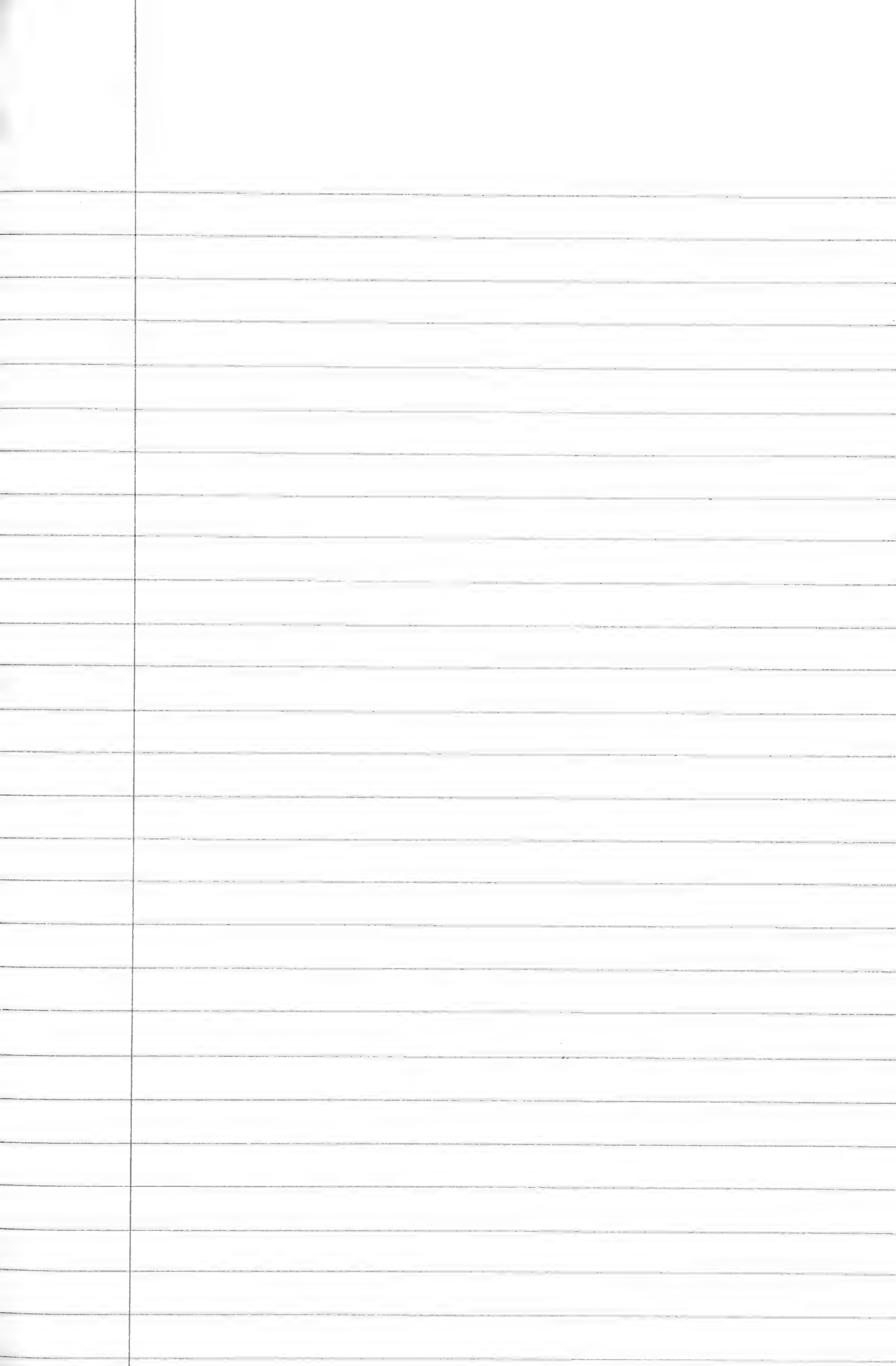
17 June

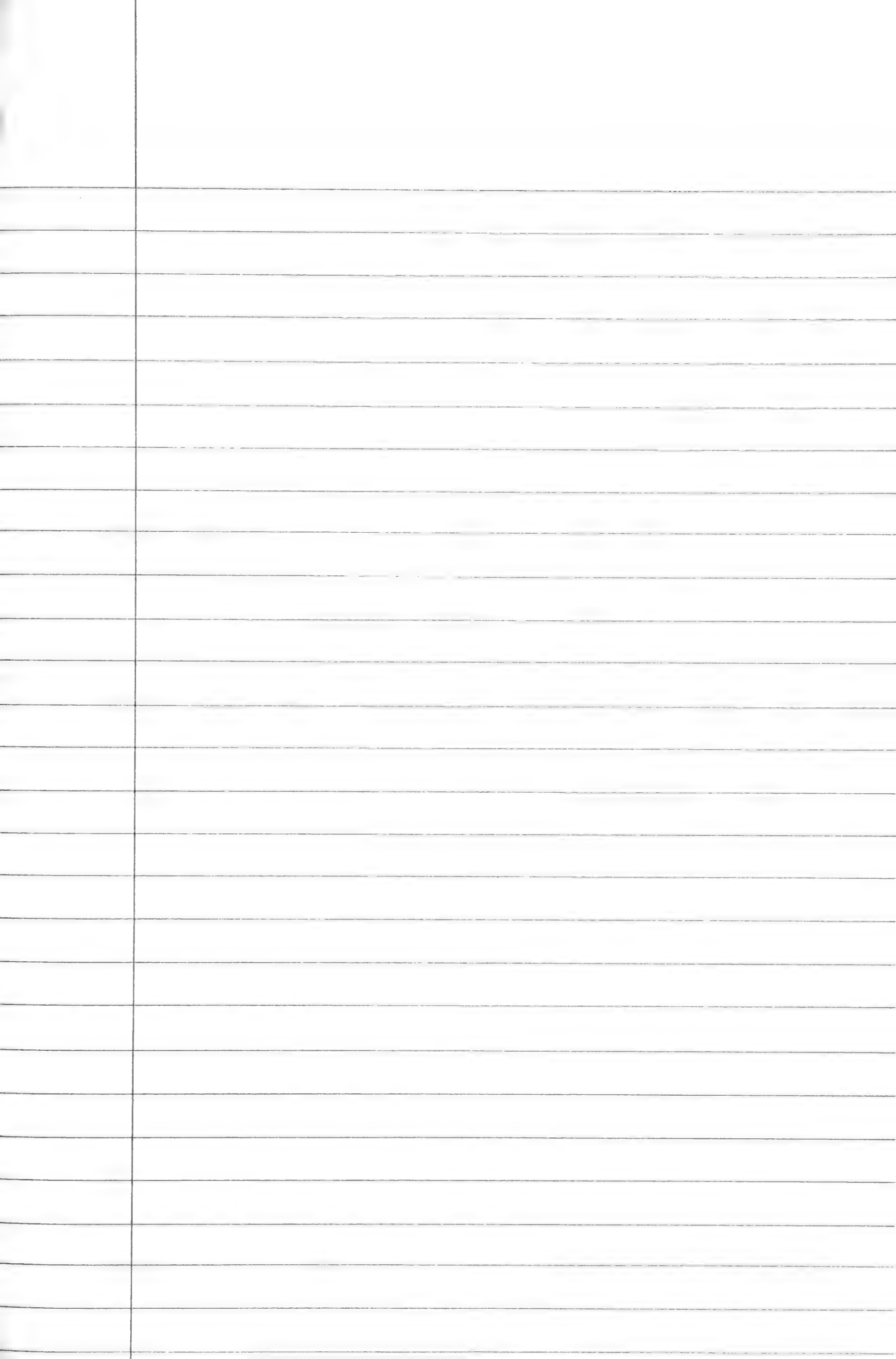
see JOURNAL

Atkasook
Meade River, North Slope Borough, Alaska

2 July

Stuart Johnston today caught a banded *C. pusilla* on a net ~~at~~ on Transect 8 today. USFWS # ¹²⁰¹ 03777 ; 2 orange bands, both on the left leg.





JP Myers
1978

Calidris alpina

Atkasook on the Meade River, N. Slope Borough, Alaska

28 May

2 together at 1400 hrs flying up wind (NE). The year's 1st.

29 May

beaucoup de redback sandpipers today. Flying mostly ENE, @ 2-3 m off the tundra. I've seen 20-30, including several small flocks numbering up to 8/flock. Displays heard in 2 separate areas (classic Dunlin flight display, the frog)

30 May

movement of alpina continuing today. Also display activity + chasing, which appears to have intensified in vicinity of airstrip. Nevertheless many of the birds that appear + land remain only momentarily. Flight direction strongly to E, some N. The net ^{direction of} movement is clearly in alpina of all the shorebirds, and approaches the consistency of Sterna pomarina.

p.m. (7,51) by the Village of Atkasook

large flock (66 alpina) foraging in sand dominated ridge top and back ridge habitat with Carex bigelowii partially buried under wind blown sand downwind from a large riverbank blowout.

no aggression in flock, birds foraging continuously. Another flock ³⁰⁺ just north of town in a NCP system also overblown by sand. There are the few areas where snow cover is down to 0%.

1230 - flock of alpina still present in same area.

IBP road, Barrow, N. Slope Borough, Alaska

2030 - flock of 35 alpina foraging just to right of beginning of T9, in a 50m patch of cleared ground. Another flock w along the road when it rises over the Beach Ridge. 2 chases seen over BBPlot #1 (GRID 1). 2 smaller flocks out ~~near~~ toward central section of T9 foraging in cleared HCP system.

POW-MAIN - Barrow

1930 - flock of 20+ alpina foraging in the one opened pool out here.

1 June

no Transsects 1, 3, 7, 6 - Gasline Ridge

ran transects this p.m. and in 2 1/2 hrs observed no alpina on the tundra away from the road. They are still in sites described on 31 May.

2 June

very few Dunlin visible anywhere around Barrow. Temps in low 20's (see journal). All in flocks.

3 June

alpina continues to flock. If anything this is even more pronounced now. Flock sites

JPMYers
1978

Calidris alpina

Barrow, North Slope Borough, Alaska

3 June
(cont'd)

still as 31 May. Also found several flocks running 10-30 birds/flock in an area south of the Wiley Post Memorial Airport in town. No display activity. I am impressed by the alpine behavior this year - they are remaining in obvious flocks after arriving far longer than I have ever seen them do. See journal.

4 June

5 June

p.m. walking w/ McCaffery on GRN 2. Dunlin actively displaying along Voth Creek. sampling transects found Dunlin distributed widely over Gasline Ridge in active display. they are ranging widely, chasing very far off their territories. Watching individuals I see them move several hundred meters in one direction in a ~~display~~ chase with 2 or 3 others. But pairs obviously formed: individuals remaining together, foraging or resting quietly together for 20-30 minutes before one flies off in display. In a number of long distance chases I observed that one, the chaser, was conspicuously hanging its feet (yet still flying in chase!). This was the bird that would call, & then veer off from the chase in a V wing display not unlike the pectoral sandpiper border flack. ♂♂ foraging on the ground in border disputes - crouching with heads lowered, ~~back~~ back sleeked, posing tensely a few inches from combatant.

Aktavik in the Meade, N. Slope Borough, Alaska

17 June

see Journal

JPMyers
1978

Calidris bairdii

Atkasook, Meade River, North Slope Borough, Alaska

30 May

Dave Shuford + Stuart Johnston found 4 bairdii by Atkasook village this afternoon. During the evening I walked there + also saw one, foraging amidst alpine on a sandy knoll. No hint of display.

31 May

Single bairdii still present at Atkasook.

Barrow, Alaska

10+ bairdii by road system around NAKL, most on the south side of the road between the NAKL airport and POW MAIN. Some aerial chasing + vocal display. 2130 one on Grin 1, foraging and gave one flight display.

3 June

bairdii still only by road system.

5 June

bairdii actively displaying on Gas Line Ridge. 2 pairs seen - one on T6 (and probably later across the slough) with ♂ + ♀ feeding quickly together. The other on T7 in the middle of GR104. ♂ displaying to ♀ in this pair - tail up, wing up + down, then ♀ approaching. ♂ entering nest cup. ♀ + quickly exiting. ♀ entering + as ♂ displayed beside (tail up, wing up + down) ♀ worked on nest cup.

6 June

obtained additional tapes of bairdii, although not 1st rate quality. Most are of a ♂ some 50-60 m up in the air hovering + gliding continuously, alternating between frog call and continuous rattle. see tape log (1978-3).

JPH:mas
1978

Tryngites subruficollis

NARL, Barrow, N Slope Borough, Alaska

20 June

1 ♂ flying over T9 today. It landed in the lowlands + gave a cup display plus a few wing ups. It then flew on. A few minutes later I saw another (or the same one most likely) fly back toward the rim over which T9 plunges by (7,0), landing on the bluff E of the transect.

JPMeyers
1978

Phalaropus fulicarius

Atkasook on the Ulenak River, North Slope Borough, Alaska

- 29 May 2 ~~to~~ fulicarius at 0900 flying SE over the tundra. Looked like ♂ + ♀ to me, definitely at least 1 ♀. But too far to tell for sure about the ♂.
- 30 May 1 ♀ at 1100. By ~~evening~~ evening seeing small flocks regularly. Heard brrip call in 2 separate occasions

Barrow, N. Slope Borough, Alaska

- 31 May 2130 one flying over gasoline road.
- 5 June heard several fulicarius today, as during last several days. Not moving ~~into~~ on to tundra yet.

Atkasook on the Ulenak, Alaska

- 17 June see journal

JP Myers
1978

Stercorarius pomarinus

Atkasook at Meade River, N. Slope Borough, Alaska

- 28 May One flock of 7 light phase ~~st~~ pomarinus flying N over the tundra ^{by camp} at 1400 hrs. The first of the year. Evening; Stuart Johnston reports a flock of 25-30
- 29 May one flock 8 pomarine headed SE.
- 30 May Large flocks of jaegers moving by to East today, up to 20/flock. Also many individuals. Light phase outnumber dark phase by $>20:1$.

Barrow, N. Slope Borough, AK

- 2 JUNE 8 in flock head N past POW MAIN. First of year over camp or tundra.
- 4 June Major flight of pomarine today, detected by us south of town. They are setting up territories there (1130 am). Many flying over. Run around Gasline, territorial activity subdued.
- 5 June 0400 territorial residents on Grid 1. Territorial birds all around on tundra, especially near South Meadow Lake. Very loud + conspicuous vocalizations (see tape log 1978-2). ♂ + ♀ in displays together on tundra mounds, posing side by side with wings out and back



← supposed to be
2 side by side birds
in same position.

- 15 June FAP censused Stercorarius pom today along Gasline Ridge. His findings confirm my feeling that territories are very large, exceeding 750 m in their longest dimension. He felt that several ~~pairs~~ ♂♂ lacked mates even though they were defending territories. One of these cases was disproven, however, when McCaffery found the nest with one egg. The records of jaegers I observed on Grid 3 ~~on~~ 2 days ago (up to 7 perched on a single HCP, all fighting over one humming) has disappeared. SEXING JAEGERs: according to FAP ♂♂ have longer central retrus, a cleaner vent, and whiter breast. In general if you can look at both members of the pair, sexing is no problem.

- 20 June Pitelka observed today that there are many unsettled pomarine moving through, something not ordinary

JP Myers
1978

Larus hyperboreus

Atkasook at Meade River, N. Slope Borough, Alaska

26 May

(15,36) on Meade grid - even though all lakes are frozen solid and the tundra is >90% snow covered, Larus h. are sitting on ~~their~~ nesting sites. Last year 2 prs nested in the lake by 15,36 on 2 separate islands. today at 0915 There were 2 pairs, one on each site, and they both reacted strongly to Dave's passing by on T6, almost mobbing him. - their typical behavior when we approach during the breeding season

(10,35) - another lake basin which last year had 2^r pairs. today there were 2 individuals perched, ~~one~~ one on each nesting site.

27 May

(10,35) there are actually 2 pairs here today, both sitting on old nest sites from last year, undoubtedly the same birds as last year or how would they recognize the sites as nesting positions? they are frozen solid. ♂+♀ separable by size dimorphism

29 May

I checked out one of the sites by 15,36 today. It is an old island ^{2m diameter} + the mosses + grasses ~~have~~ have all been torn up. there is a slight depression rimmed with moss, and water filled.

17 June

(10,35) - 3 nests active, the 2 I detected plus one other. ~~Each~~ Gulls down here now each have 2 eggs.

SPM/400
1978

Calcarius lapponicus



Atkasook, Minto R. near, N. Slope, AK

22 May

1 ♂ and 2 ♀ by camp, foraging near bluff in melted area.

23 May

flocks of ♂♂ in several areas cleared of snow. ~10 ♂ by airstrip, another 20 or so (16-17, 40-41) — see coordinate map. Absolutely no sign of display.

25 May

heard singing ♂♂ out by the end of T11. Three guys were moving about in a flock, however

26 May

Flocking longspur ♂♂ along T5 on the ridge. Several birds occasional in flight song, chasing.

27 May

1 ♂ singing by camp. ♀♀ still very unusual.

29 May

see journal. today was Longspur Arrival Day. We are inundated by migrating longspurs. In 45 min from 0545 to 0630 I stood near the airstrip and at least 50 if not 100 birds came past me headed ESE. ♀♀ common now. ♂♂ beginning to display + chase regularly. There is a longspur on most bare patches now, and 10 more in the air between them.

30 May

♂ carrying nesting material

Barrow, N. Slope Borough, Alaska

31 May

evening — ♂ leaps displaying over grid 1 + 2, T5. Not many, however. a few ♀♀ also seen.

3 June

Although to date I have found leaps on the tundra, particularly the warm evening of 31 May, by far most are flocking in clear areas by the road + have yet to move on to breeding sites

5 June

♂ + ♀ on tundra, carrying nesting material.

6 June

1 nest cup almost complete.

13 June

2 clutches w/ 6 eggs. ♂♂ in flight display on grid 3. ♂ floaters conspicuous. they fly low over the ground, continually slipping in + out of territories even as the resident displays. Watched one go from between 3 territories + be chased by residents. They are occasionally quite persistent. In fact it looks as if the period of multi-♂ groups w/ ♀ may be beginning. Watched 2 ♂ w/ 1 ♀ remain together for 15 min. One ♂ occasionally chased other. One floater moved between territories by flitting through polygon trough system, below top of polygons.

SP Myers
1978

Nyctea scandiaca

Barrow, N. Slope Borough, Alaska

31 May

Scanning horizon from Gas Line ^{Road} found 8 Nyctea including 3 displaying ♂ (^{butterfly} flight and Dracula display with lemmings in bill) and one ♀ looking as if on nest.

1 June

2 nests - one with 2 eggs one with 3.

3 June

3rd nest observed (^{suspected} ♂ carrying lemming to ♀ in butterfly flight, ♀ obviously incubating) but too far away to be confirmed.

5th June

2 nests now have 1 more egg ~~each~~ apiece

15 June

NS 1 w/ ⁷ eggs; NS 2 w/ 7. for precise laying schedule so phenology notes

0930 300m below F&A Bldg. nr
Volta Creek.

Dowitcher

19 AUG 1978 BJ McCaffery

35-50% pebbles, 3-5 mm dia

45-50% Fibers - vegetable?

5-10% bits of chiton - elytra - leg segments?

Bits of twigs

19 AUG 1978 Volta Creek 300m
below F&A.

20% Pebbles. Various sizes 1-5mm.

Fibrous material

Piece of lichen

~~3 or 4~~ insect larvae - coleoptera?

8-12

Other insect larvae - diptera?

Fragments of sclerotized material -
coleoptera?

19 AUG 1978 Grid A
300m.

~20% Pebbles.

Fibrous material - much of it vegetable.

~8 fairly intact larvae - 2 very red.



Sclerotized head.

(over)

Other fragments & solitary larvae.

Bloody feather - from outside of stomach?

A clut of fatty material.

Identifiable moss larvae.

Fragment of tipulid abdomen

Fragment of thorax, leg segments & abdomen of insect.
mosquito

Fragments of beetle elytra

19 AUG 78

Limnodromus s. juv.

2000 hr.

~ 50% pebbles

Many fragments of insect larva skin (dip terans?)

Fibrous material - to chiton fragments?

Bits of twigs - moss stems?

Red larva

Limnodromus scoto.

19 Aug 78

300 m below RAX 0930

~50% pebbles

Fibrous material 40% - mostly
unidentifiable

Fragments of larval skin (dip tera?)

Fragments of chiton.

by insect station 3

on T 7 19 Aug 78

~50% pebbles

Fibrous material

20-25 skins of larvae some red (dip tera?)

5-10 Seeds.

5-10 Fragments of tough vegetable matter
Fragments of seeds?

Fibrous material includes numerous
stem fragments - moss stems?

19 Aug 78 1130 Note

Creek 100 m beyond FAX

~50% pebbles

Fibrous material

Fragments of chiton

Pink pulpy material

19 Aug 1978.

0, 10 at G4

30-40% pebbles.

25-30% skins of larval larvae (Diptera) variously
digested.

Fibrous material - non stem? frags.

Bits of cuticles - including frag of claw or jaw

19 Aug 1978

400 m beyond 500

1130...

~30% pebbles

~20 larval skins - Dipterans?

3-4 large seeds

Pluvialis dominica

2 July 1978

0
+

Cardine Ridge

15-20% pebbles

70-80% larval - tipulid?

Head of adult tipulid

5% Carabid Exoskeleton

Dark grey pink paint chip

Leg segments of adult tipulid

Branch of moss

Tipulid wings

JPM Myers
1978

50 sp. seen by total group.
The BIG DAY!

DAILY LIST: BARROW, NORTH SLOPE BOROUGH, ALASKA

date	location	21 MAY	22 MAY	31 MAY P.M.	1 JUNE	2 JUNE a.m.	3 JUNE	4 JUNE	5 JUNE	6 JUNE	6 JUNE Nunuk	7 JUNE	8 JUNE	
Gavia arctica									1					
G. stellata													1	
G. adamsii											1			
Branta bernicla														
Anas acuta				1		5	3	15	20	20	10	20	20+	
Clangula hyemalis				300				6	5	20	100+	50	20	
Polysticta stelleri									4	2		2	15	
Somateria mollissima				1			100+	100+	100+	20	100+	10	50	
S. spectabilis							100+	100+	10+	50	100+	10	50	
S. fischeri										2			6	
Charadrius semipalmatus				2			1		2	1		1	1	
Pluvialis dominica				2	1		2	10	5	5	1	5	10	
Arenaria interpres		3		5	5	5	50+	20	5	2	2	5	5	
Calidris melanotos				3			3	10	10	20	5	20	30	
C. fuscicollis							1		1	2	2	3		
C. bairdii				10	2	4	10	10	15	5	10	5	4	
C. alpina				70	20	10	100+	50+	50	50+	3	15	20	
C. alba				3			4	15	5	3	15	5		
C. pusilla				20	5	5	15	20	20	10	3	10	10	
C. mauri				1				1						
Tringoides subruficollis								2						
Limonodromus scolopaceus				2					4	2		2	2	
Phalaropus fulicarius								1	5	10	10	20	20	
P. lobatus				1			1	2	2	2		2	6	
Stercorarius parasiticus								20				1		
S. pomarinus						8		30	30	20		15	15	
S. longicaudus											1			
Larus hyperboreus		500+	500+	500+	300+	200+	300+	300+	100+	100+	5	100+	100+	
Nissa tridactyla														
Xema sabini														
Sterna paradisaea				1				1						
Cerpus grylle				25										
Nyctea scandiaca				8	4	2	206	85	8	4		5	2	
Asio flammeus							1	5						
Passerculus sandwichensis				2				2	3	2	2	3	2	
Calcarius lapponicus		1		40	20	20	30	50+	50+	50+	2	50+	50+	
Plectrophenax nivalis		10+	10+	25	20	10	20	20+	15	10	4	4	5	
BONUS BIRDS														
Ixoreus naevius				1		1	1	3	4			1	1	
Motacilla flava				3		1		1		1	1			
Anthus spinoletta				2				1						
Zonotrichia leucophrys				1			1	2					1	
Dendroica coronata				1										
Petrochelidon phryganota				2				1						
Anser albifrons						2		5	5	2			5	
Acanthis borehemanni				10				5	10	5	5		5	
Acanthis flammea type							2							
Hirundo rustica							1							
Spizella arborea							1			1	2			
Junco hyemalis							1							
Anas crecca carolinensis								4	3					
Calidris canutus								2						
Stelgidopteryx ruficollis - ?								1						
Riparia riparia								1						
Micropalama himantopus								1	2					

Capella gallinago

Passercula iliaca

Tringa flavipes

Calidris roficollis

Pluvialis squatarola

Charadrius vociferus

Hypocichla ustulata

Euphagus carolinus

Mareca americana

collected

DAILY LIST: BARROW, NORTH SLOPE BOROUGH, ALASKA

[illegible]

100

JPMYERS
1978

DAILY LIST: BARROW, NORTH SLOPE BOROUGH, ALASKA

date location	25 JUNE	26 JUNE	27 JUNE	28 JUNE	29	30	2 JULY						
Gavia arctica	2	2	2	1	4	5	2						
G. stellata		1	1	1	1	2	2						
G. adamsii			1		1	1							
Branta bernicla	3						30						
Anas acuta	10	10	5	1	10	10	10						
Clangula hyemalis	5		1	4		40	5						
Polysticta stelleri	8	10	4	5		10	10						
Somateria mollissima						20							
S. spectabilis	5												
S. fischeri	1						10000T						
Charadrius semipalmatus			1	1	1	1	1						
Pluvialis dominica	10	5	5	5	10	10	30						
Arenaria interpres	2	2	2	5	2	5	2						
Calidris melanotos	25	30+	10	15	30	50	50+						
C. fuscicollis		1				2							
C. bairdii	5	10	5	2	5	8	5						
C. alpina	20	30+	20	20	20	20	20+						
C. alba													
C. pusilla	20	10	10	15	15	10	15						
C. mauri					4	4	1						
Tringites subruficollis		3				2	2						
Limnodromus scolopaceus		4	3	7	10	15	1						
Phalaropus fulicarius	25	25	10	20	30	60	20						
P. lobatus	2	1	1	1	1	2	1						
Stercorarius parasiticus							1						
S. pomarinus	20	20	10	10	20	20	20						
S. longicaudus		2											
Larus hyperboreus	50+	50+	100+	100+	100+	100+	100+						
Rissa tridactyla													
Xema sabini													
Sterna paradisaea		2	-										
Cephus grylle													
Nyctea scandiaca	5	5	6	6	5	5	6						
Asio flammeus													
Passerculus sandwichensis	2		1	1	2	1	1						
Calcarius lapponicus	50+	50+	50+	20+	20+	20+	20+						
Plectrophenax nivalis	5	10	10	10	10	10	10						
BONUS BIRDS													
Larus schisticeps		1											
Ixoreus naevius			1	1		1	1						
Calidris ferruginea			1										
Arremonops	5	5	5	5	5	5	5						
Phalaropus squatarola		1											
Calidris canutus				2									
Grus canadensis				2			1						
Perisoreus canadensis							2 - 1000!!						

JPMyers
1978

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

date location	22 MAY	23 MAY	24 MAY	25 MAY	26 MAY	27 MAY	28 MAY	29 MAY	30 MAY	31 MAY A.M.	9 JUNE	10 JUNE	16 JUNE
Gavia arctica												10	1
G. stellata												1	
G. adamsii												1	
Olor columbianus								2					
Anser albifrons		N20		N15			20	50+	50+	20			2
Anas platyrhynchos													
A. acuta								?	10	3	3	10	5
A. crecca carolinensis												1	
Clangula hyemalis							?				5	10	2
Somateria spectabilis											4	4	
Lagopus lagopus	28	N15	20	20	20	5	5	15	25	15	15	10	10
L. mutus		N4	10	10			2	4	1			1	
Pluvialis dominica							2	15	20	20	5	20	10
P. squatarola							10	10	2	5	2	10	5
Arenaria interpres		?	5	3	1	14	15	5	10	10			2
Calidris melanotos		?					10	20+	30+	20	10	30	3
C. alpina								20+	130	20	1	10	5
C. mauri								20+	10	10		128	3
C. pusilla								20+	3	2	2	20	2
Tryngites subruficollis									3	5			
Limnodromus scolopaceus								15	20	10	5	10	4
Phalaropus fulicarius								2	18	5	4	10	
P. lobatus								1	1	4	10	15	5
Stercorarius parasiticus								1	5	5	4	10	2
S. pomarinus							7	6	50+	15	2	4	
S. longicaudus									10	10		2	2
Larus hyperboreus	100+	20+	20+	20	10	10	15	10	10	10	5	10	10
Sterna paradisaea									1	4	1	5	10
Nyctea scandiaca			1	1	1			2	1	1			
Asio flammeus								1		2	1		
Motacilla flava								5	4	8	10	12	5
Passerculus sandwichensis								3	1	3	3	5	2
Zonotrichia leucophrys									1	1		3	
Calcarius lapponicus	3	20+	20+	25	25	10	5	100+	100+	50+	25	50+	20
Acanthis sp.		3						10	3	10	2	10	
Plectrophenax nivalis		3	5	5	5	5	4	10	10	5			
BONUS BIRDS													
Branta bernicla nigricans							50	25					
Limosa lapponica								3	3				
Anas americana									2				
Xema sabini									2	2		1	
Tridopneus bicolor									1				
Micropelema himantopus									2				
Calidris bairdii									1	1			
Buteo lagopus									1				
Falco sparverius										1			
Spizella arborea										1			
Somateria fischeri												2	
Rangifer	10	5	20	47	30+	30+	5	20	10				
Vulpes				1				1					

Lemmus

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

[illegible]

1978 CAMP

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

date	22	23	24	25	26	27	28	29	30	31	1	2	3
location	May	May	May	May	May	May	May	May	May	May	June	June	June
Gavia arctica													
G. stellata													
G. adamsii													X
Olor columbianus								X					
Anser albifrons		X		X	X	X	X	X	X	X	X	X	X
Anas platyrhynchos													
A. acuta									X	X	X	X	X
A. crecca carolinensis													
Clangula hyemalis										X			
Somateria spectabilis													X
Lagopus lagopus	X	X	X	X	X	X	X	X	X	X	X	X	X
L. mutus		X	X	X	X	X	X	X	X	X	X	X	X
Pluvialis dominica					X	X	X	X	X	X	X	X	X
P. squatarola						X	X	X	X	X	X	X	X
Arenaria interpres		?	X	X	X	X	X	X	X	X	X	X	X
Calidris melanotos		?					X	X	X	X	X	X	X
C. alpina							X	X	X	X	X	X	X
C. mauri								X	X	X	X	X	X
C. pusilla								X	X	X	X	X	X
Tringites subruficollis									X	X	X	X	X
Limnodromus scolopaceus								X	X	X	X	X	X
Phalaropus fulicarius								X	X	X	X	X	X
P. lobatus								X	X	X	X	X	X
Stercorarius parasiticus								X	X	X	X	X	X
S. pomarinus							X	X	X	X	X	X	X
S. longicaudus								X	X	X	X	X	X
Larus hyperboreus	X	X	X	X	X	X	X	X	X	X	X	X	X
Sterna paradisaea									X	X	X	X	X
Nyctea scandiaca			X	X	X			X	X	X	X	X	X
Asio flammeus								X	X	X	X	X	X
Motacilla flava								X	X	X	X	X	X
Passerculus sandwichensis								X	X	X	X	X	X
Zonotrichia leucophrys								X	X	X	X	X	X
Calcarius lapponicus	X	X	X	X	X	X	X	X	X	X	X	X	X
Acanthis sp.		X						X	X	X	X	X	X
Plectrophenax nivalis	X	X	X	X	X	X	X	X	X	X	X	X	X
BONUS BIRDS	4		7	9	8	9	13	31	36	30		47	57
Nelson's Scaup								X	X	X		X	
Barn Swallow							X	X	X				
Turdus migratorius							X	X	X				
Linnaea lapponica								X	X				X
Linnaea borealis								X	X		X		X
Xema								X	X	X			X
Spizella								X	X	X			X
M. fulvus									X				
Empidonax									X				
Amphispiza									X				
Corvus corax									X		X	X	
Buteo									X	X	X		
Sagittarius									X	X	X		
Halcyon									X	X	X		
Branta canadensis									X	X	X		
Aythya macrura									X	X	X		
Nyroca									X	X	X		
Chen hyperboreus													X



1978 Camp list

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

date location	1 June	5 June	6	7	8	9	10	11	12	13	14	15	16
Gavia arctica	X	X	X	X	X	X	X	X	X	X	X	X	X
G. stellata	X	X	X	X	X	X	X	X	X	X	X	X	X
G. adamsii	X	X	X	X	X	X	X	X	X	X	X	X	X
Olor columbianus	X	X	X	X	X	X	X	X	X	X	X	X	X
Anser albifrons	X	X	X	X	X	X	X	X	X	X	X	X	X
Anas platyrhynchos	X	X	X	X	X	X	X	X	X	X	X	X	X
A. acuta	X	X	X	X	X	X	X	X	X	X	X	X	X
A. crecca carolinensis	X	X	X	X	X	X	X	X	X	X	X	X	X
Clangula hyemalis	X	X	X	X	X	X	X	X	X	X	X	X	X
Somateria spectabilis	X	X	X	X	X	X	X	X	X	X	X	X	X
Lagopus lagopus	X	X	X	X	X	X	X	X	X	X	X	X	X
L. mutus	X	X	X	X	X	X	X	X	X	X	X	X	X
Pluvialis dominica	X	X	X	X	X	X	X	X	X	X	X	X	X
P. squatarola	X	X	X	X	X	X	X	X	X	X	X	X	X
Arenaria interpres	X	X	X	X	X	X	X	X	X	X	X	X	X
Calidris melanotos	X	X	X	X	X	X	X	X	X	X	X	X	X
C. alpina	X	X	X	X	X	X	X	X	X	X	X	X	X
C. mauri	X	X	X	X	X	X	X	X	X	X	X	X	X
C. pusilla	X	X	X	X	X	X	X	X	X	X	X	X	X
Tryngites subruficollis	X	X	X	X	X	X	X	X	X	X	X	X	X
Limnodromus scolopaceus	X	X	X	X	X	X	X	X	X	X	X	X	X
Phalaropus fulicarius	X	X	X	X	X	X	X	X	X	X	X	X	X
P. lobatus	X	X	X	X	X	X	X	X	X	X	X	X	X
Stercorarius parasiticus	X	X	X	X	X	X	X	X	X	X	X	X	X
S. pomarinus	X	X	X	X	X	X	X	X	X	X	X	X	X
S. longicaudus	X	X	X	X	X	X	X	X	X	X	X	X	X
Larus hyperboreus	X	X	X	X	X	X	X	X	X	X	X	X	X
Sterna paradisaea	X	X	X	X	X	X	X	X	X	X	X	X	X
Nyctea scandiaca	X	X	X	X	X	X	X	X	X	X	X	X	X
Asio flammeus	X	X	X	X	X	X	X	X	X	X	X	X	X
Motacilla flava	X	X	X	X	X	X	X	X	X	X	X	X	X
Passerculus sandwichensis	X	X	X	X	X	X	X	X	X	X	X	X	X
Zonotrichia leucophrys	X	X	X	X	X	X	X	X	X	X	X	X	X
Calcarius lapponicus	X	X	X	X	X	X	X	X	X	X	X	X	X
Acanthis sp.	X	X	X	X	X	X	X	X	X	X	X	X	X
Plectrophenax nivalis	X	X	X	X	X	X	X	X	X	X	X	X	X
BONUS BIRDS	39	35											
Nelson's Sandpiper													
Branta bernicula nigricans													
Turdus migratorius													
Limosa lapponica													
Luscinia svecica	X	X	X	X	X	X	X	X	X	X	X	X	X
Xema sabini	X	X	X	X	X	X	X	X	X	X	X	X	X
Spizella arborea	X	X	X	X	X	X	X	X	X	X	X	X	X
Micropalama himantopus													
Iridoprocne bicolor													
Anas americana													
Cervus corax													
Buteo lagopus													
Calidris bairdii	X	X	X	X	X	X	X	X	X	X	X	X	X
Falco sparverius													
Branta canadensis													
Aythya marila	X	X	X	X	X	X	X	X	X	X	X	X	X
Numenius phaeopus													
Chen hyperborea													
Anas clypeata	X	X	X	X	X	X	X	X	X	X	X	X	X
Somateria fischeri	X	X	X	X	X	X	X	X	X	X	X	X	X
Acanthis flammea	X	X	X	X	X	X	X	X	X	X	X	X	X
Oenanthe oenanthe		X	X	X	X	X	X	X	X	X	X	X	X
Caprimulgus vociferus													
Caprimulgus vociferus													

1978 camp list

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

[illegible]

1978 camp list

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

date location	30 June	1 JUN	2 JUN	3 JUN	4 JUN	5 JUN	6 JUN	7 JUN	8 JUN	9 JUN	10 JUN	11 JUN	12 JUN
Gavia arctica	X	X	X	X	X	X	X	X	X	X	X	X	X
G. stellata	X	X	X	X	X	X	X	X	X	X	X	X	X
G. adamsii	X	X				X	X				X		X
Olor columbianus													
Anser albifrons	X	X	X	X		X	X	X					X
Anas platyrhynchos													
A. acuta	X	X	X	X		X	X	X	X		X		X
A. crecca carolinensis													X
Clangula hyemalis	X	X	X	X	X	X	X	X	X		X	X	X
Somateria spectabilis		X	X										X
Lagopus lagopus	X	X	X	X		X	X	X	X	X	X	X	X
L. mutus	X	X		X							X		
Pluvialis dominica	X	X	X	X	X	X	X	X	X		X	X	X
P. squatarola	X	X	X	X	X	X	X	X	X	X	X	X	X
Arenaria interpres	X	X	X			X	X	X	X		X	X	X
Calidris melanotos	X	X	X	X	X	X	X	X	X	X	X	X	X
C. alpina	X	X	X	X	X	X	X	X	X	X	X	X	X
C. mauri	X	X	X	X		X	X	X	X		X		X
C. pusilla	X	X	X	X	X	X	X	X	X	X	X	X	X
Tringites subruficollis		X											
Limnodromus scolopaceus	X	X	X	X	X	X	X	X	X		X		X
Phalaropus fulicarius	X	X	X	X	X	X	X	X	X		X	X	X
P. lobatus	X	X	X	X	X	X	X	X	X	X	X	X	X
Stercorarius parasiticus	X		X	X	X	X	X	X	X	X	X	X	X
S. pomarinus						X							
S. longicaudus	X	X	X	X	X	X	X	X	X	X	X	X	X
Larus hyperboreus	X	X	X	X	X	X	X	X	X	X	X	X	X
Sterna paradisaea	X	X	X	X	X	X	X	X	X		X	X	X
Nyctea scandiaca				X									
Asio flammeus	X	X	X			X	X	X		X	X		
Motacilla flava	X	X	X	X	X	X	X	X	X	X	X	X	X
Passerculus sandwichensis	X	X	X	X	X	X	X	X	X	X	X	X	X
Zonotrichia leucophrys	X	X	X	X	X	X	X	X	X	X	X	X	X
Calcarius lapponicus	X	X	X	X	X	X	X	X	X	X	X	X	X
Acanthis sp.	X	X	X	X	X	X	X	X	X	X	X	X	X
Plectrophenax nivalis	X	X		X	X	X	X	X	X	X	X	X	X
BONUS BIRDS													
Mergus serrator	X					X	X						
Aythya marila	X						X				X		X
Colaptes auratus		X											
Empidonax hammondi		X		X			X						
Somateria fusca					X			X					
Agelaius phoeniceus			X										X
Phalaropus lobatus						X					X		
Larus argentatus						X					X		
Colaptes auratus								X	X				
Ceryle alcyon								X			X		X

1978 camp list

DAILY LIST: ATKASCOK, NORTH SLOPE BOROUGH, ALASKA

ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

[illegible]

DAILY LIST:

```
date
location
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Gavia arctica
G. stellata
G. adamsii
Olor columbianus
Anser albifrons
Anas platyrhynchos
A. acuta
A. crecca carolinensis
Clangula hyemalis
Somateria spectabilis
Lagopus lagopus
L. mutus
Pluvialis dominica
P. squatarola
Arenaria interpres
Calidris melanotos
C. alpina
C. mauri
C. pusilla
Tringites subruficollis
Limnodromus scolopaceus
Phalaropus fulicarius
P. lobatus
Stercorarius parasiticus
S. pomarinus
S. longicaudus
Larus hyperboreus
Sterna paradisaea
Nyctea scandiaca
Asio flammeus
Motacilla flava
Passerculus sandwichensis
Zonotrichia leucophrys
Calcarius lapponicus
Acanthis sp.
Plectrophenax nivalis

BONUS BIRDS

1978 camp list

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

date	25	26	27	28	29	30
location	Aug	Aug	Aug	AUG	AUG	AUG
Gavia arctica		X	X	X	X	X
G. stellata			X	X	X	X
G. adamsii			X	X	X	X
Olor columbianus						
Anser albifrons	X	X	X	X	X	X
Anas platyrhynchos						
A. acuta		X				
A. crecca carolinensis	X					
Clangula hyemalis					X	
Somateria spectabilis						X
Lagopus lagopus	X	X	X	X	X	X
L. mutus			X	X	X	X
Pluvialis dominica	X		X	X	X	X
P. squatarola		X	X		X	X
Arenaria interpres			X			
Calidris melanotos	X		X	X	X	X
C. alpina		X	X	X	X	X
C. mauri						
C. pusilla						
Tryngites subruficollis						
Limnodromus scolopaceus		X	X		X	X
Phalaropus fulicarius	X	X		X	X	
P. lobatus		X	X	X	X	X
Stercorarius parasiticus	X	X	X	X	X	X
S. pomarinus						
S. longicaudus		X	X	X	X	X
Larus hyperboreus	X	X	X	X	X	X
Sterna paradisaea		X	X	X	X	X
Nyctea scandiaca	X	X	X	X	X	X
Asio flammeus	X			X	X	
Motacilla flava						
Passerculus sandwichensis				X		X
Zonotrichia leucophrys					X	X
Calcarius lapponicus	X	X	X	X	X	X
Acanthis sp.			X	X	X	
Plectrophenax nivalis			X	X	X	X
BONUS BIRDS	11	16	21	21	24	
Aythya marila		X				
Numenius phaeopus				X		
Calidris bairdii						X

1978 Camp list

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

[illegible]

Myers, J. P.

1978 - 1980

Alaska

1979: Journal
Daily Lists

Journal

NAEL, Barrow, Alaska

5 June

Arrived Barrow 1630 via Wien Air after leaving San Francisco airport at 0730. Even with the change in time zones that is only 11 hours time, of which at least 3 were spent on the ground. Alas - what would HS Swarth have thought of the way we have reduced arctic trips to trivial one day jaunts? On the other hand, we obtain an unusual perspective because the contrast in area, in weather, and in birds and people is so stark. ^{Murdoch would be envious.} Berkeley yesterday hit 15°C at least. Today Barrow is hovering around 0°C with a 17 mph wind from the east. At Walking home from the Life Science Bldg yesterday I had to walk around a family of juncos and dodge the brown bunnies littering my path. Today I saw 2 birds between the airport and the lab. Admittedly there are more (many more) around - but the comparison is bleak. Snow melt is far along - locally approaching 80-90%, although in some areas it is still 90% cover. There is a large lead a km off shore. McCaffery says the ~~the~~ main melt occurred 31 May and that even before then (26 May) there were shorebirds about. Display activity on the part of all species has been prominent since 31 May. I ate dinner with McCaffery, Chris Swarth, and Steve Gelman (my assistants at Barrow this year) + renewed several acquaintances in the mess hall. Ting & Bill Purley were still there occupying vast volumes of airspace with their enormous belches - although they have lost weight this winter. Andy the foreman of the gas well is still around. But some things do change: 2 ♀ bus boys worked in the washing room.

After dinner I 3-wheeled out to POW-MANUA. Not one Tundid! Not one funny emberizine! No ~~any~~ unexpected shorebirds! How drab! A white-rumped sandpiper was the only prize. Semipalmes are well underway in their territorial maneuvering, the brants are displaying + the pecked males are chasing each other. I heard no loot.

JP Myers
1979

Journal

2

Atkasook, Meade River, North Slope Borough, Alaska - all map opposite

6 June

10 am flew to the Meade River camp via NARL Cessna 180. Strong wind continued from yesterday blowing all am, this time with a heavy cloud cover. My flight down was uneventful. No snowy owls, a few pomarine jaegers. Jules Evans was at the airstrip when we arrived. After a brief conversation there at camp we left for a buff-breasted sandpiper lek that Dave Shuford and Jules had found 2 days before. It is located near the far end of Transect 9 in the same area where displaying birds have been seen during the last two years, and also near where we have found young buffies every year. It took us 1.5 hrs to reach the site. Jules + Dave have already put in part of a grid. Jules continued working on that until 1600; he then went in. I remained watching buffies until 1900. See *Tryngites* species account. Often the action was hot and heavy on the lek. Weather improved throughout the day, clearing by 1300 and calming by 1500. It remained calm throughout. I reached camp by 2030. After 0.5 hrs I went out again, this time to the W end of the runway where a *Luscinia svecica* had been singing. I taped it and other local beauties (see tape log). Bed by 2400

7 June

Up at 0400 + left camp by 0515 to go to ~~the~~ buffie plot at (25, 42) for observation. The fog moved over camp at 0420, enveloping us in a thick envelope of dampness. Rather warm with no wind until the zephyrs started at 0600 or so. But it never picked up + we had a gorgeous balmy day with the fog disappearing by 0900. See buffie species account about the action out there. I remained on the grid ~~and~~ until 1730 + then returned to camp, arriving around 1915. Argh what a day. Jules Evans worked on buffies with me all day, and Shuford + Chris Swarth came out around noon.

8 June

A later morning, but again back to the buffie grid. Arrived there at 0800 with Swarth close behind. Little or no wind all day, few clouds in the morning + none in the afternoon. Warm + balmy. 3°C at 0600. See *Tryngites* species account re events out there. <1 copulations!

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Journal

Etkasook, Uluksu River, North Slope Borough, Alaska

9 June

Worked on field notes during morning. ^{4:30 at 0600} The Silver Salmon arrived with Terry Hall. We walked together out back to search Willow Creek beyond (west) of the runway. It was not in its usual haunts so we walked up Willow Creek beyond, going as far as where Transect 1 crosses the Creek. He was singing; in fact he was imitating a ♀ Calidris melanotos. See Luscinia sp. account. Hall + I watched for ~1/2 hr then returned to camp. Swarth + I left for the buffic lek (25, 41) at 1400. Clouds building along the SW horizon, a huge thunderhead. We found another Luscinia en route by Willow Creek (actually just west at (14, 39)), listened to it mimic for 20 min, and then continued on. We remained at the buffic lek until 2030. The thunderhead moved over us, showering briefly but dumping torrents of rain several miles distant. It then cleared, only to overcast ominously on the west by 2100. A strong wind whipped up as we walked in, gusting 25 mph⁺. ~~Reached~~ We reached camp at 2130. On the buffic grid all went well. Shuford + Evans spent the morning out there + we picked up afternoon + evening. I banded one ^{more} ~~more~~ ♂. See sp account.

10 June

0700 left camp. 41.2°C at 0600. Windy, overcast. It has rained during the night. Swarth + I walked to the buffic lek again, arriving at 0830. See Tryngites species account. Remained until 1500. Rained intermittently, wind blew strong. Temp not too cold, however. More extraordinary buffic observations.

11 June

Westerly storm blew in during the night. 2°C at 0630 Rain. Worked on field notes. Wind gusting over 30 mph, steady at 22 from W. The NARL Cessna 180 came in to pick me up and flipped over on its back while taxiing because of the strong gusts. No one was hurt.

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Journal

Barrow, North Slope Borough, Alaska

12 June 0900 began censusing Grid 1 - AH nostalgia. Foggy morning with a strong W wind blowing to 15 mph. Temperature 31° @ 5 am. Snow cover to $\frac{1}{4}$ " after an evening of snowfall. The snow melted by 1000. Action on the grids began hot and heavy as I stumbled on to a set of Calidris melanotos working out their territories. There seemed to be an intruding non resident σ interested in the local ff . Otherwise it was an active but not spectacular day, with the temperature remaining down throughout. C. alpina are mostly on complete clutches, it appears, judging from the fact that they have begun to molt primaries. Calcarius lapponicus are also well along, with $\sigma\sigma$ chasing & following ff in small groups of 2-3. C. bairdii and Pluvialis dominica displayed throughout the day. A Capella gallinago winnowed over the grid. According to Brian the one normal local water hen hasn't been seen yet is Gavia stellata. It may be too early, except all the appropriate ponds are melted. I saw no G.S. today.

13 June On Grid 1 again censusing. Weather classic Barrow except for the west wind: 31°F at 0500, foggy, light breeze. Periodically the fog cleared us by lightening slightly, but between 0730 and 1500 it remained. Now at 2000 it has lifted considerably. Here is a run down of my perception of the status of various species

Gavia sp - none of the three are here yet

Anas acuta - up to 40/day, most flocks at least 10:1 σ ? f

Clangula hyemalis - scarce

Polysticta stelleri - around but not as common as 1976

Somateria spectabilis - a few well bred locally

Somateria fischeri sl. Ho.

Pluvialis dominica - incredibly abundant. I have found 4 nests on grid 1, and there may be two more. On Grid 2

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NARL, Barrow, North Slope Borough, Alaska

13 June
(cont'd)

there are even more (33 ha and 36 ha respectively). In past years we have been lucky to have 2 on each grid. The high number here is particularly intriguing given their lower than usual density at Meade River.

Arenaria arctica - normal densities, 1-2 / grid.

Calidris melanotos - intermediate densities of both ♂ and ♀. Not much ~~was~~ activity on Grid 1, but transects reflect tremendous numbers in the very lowlands.

C. fuscicollis - more around this year than any year since I have arrived (1975). Displaying on grids 1+2.

C. bairdii - abundant - many more than usual on Grid 1 - up to

4 ♂♂ C. alpina - normal or slightly lower density. Wing molt already

C. pusilla - normal of 5-7 / grid

Tryngites subruficollis - like McCaffery + Goldman they have a small lek on grid 3. Probably 3 birds.

Limnodromus scolopaceus - a few displaying birds

Phalaropus fuscicollis - low density as yet on the grids.

Ph. lobatus - seen every day, probably breeding behind camp.

Stercorarius parasiticus - rare but around.

S. pomarinus - lurking around everywhere in low density. McCaffery saw the first breeding display today. I doubt many will breed. I have yet to see a lemming on the tundra this year at Barrow. 2 young and one adult were in camp this evening.

Larus hyperboreus - the usual mass is at the dump. >1000. But I haven't looked them over.

Myctea scandiaca - none around

Asio flammeus - a few were around before I arrived.

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NARL, Barrow, North Slope Borough, Alaska

13 June
(cont'd)

Passerculus sandwichensis - ♂♂ singing in a few swampy spots by Voth Creek and POW-WATER. Not a hot year.

Calcarius lapponicus - one incredible year for longspurs. I have never seen them this dense. On Grid 1 it isn't that bad (2-3 more territories than usual) but on Grids 2 and 3 they are double normal density - almost 1/ha.

Acanthis flammea - only in camp.

Plectrophenax nivalis - most abundant in camp but usual numbers elsewhere.

14 June

I waited for NARL to get its act together almost all day. The pilots and the administration are fighting over bureaucratic power and not flying airplanes because of it. At 1000 they finally said they would fly today, leaving for Meade at 1300. I spent the next 2 hours in the field walking out gasline ridge. Weather was chilly, 31°, but no wind. Intermittent fog. The morning's walk allows me to append the above comments on a few species.

Pluvialis dominica - spectacularly abundant, breeding well in the lowland area of Grid 4. Pairs are everywhere, and because they are so visible it is hard to look through binoculars across the landscape without having a pair in your field of view.

Calidris melanotos - definitely uncommon

Calidris bairdii - distributed throughout highland highlands

Stercorarius pomarinus - breeding out by South Meadow lake.

I saw a pair chasing a ~~black~~ fox

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Atkasook, Meade River, North Slope Borough, Alaska

15 June

Headed out to Buffie Lake near (25,42) at 0615. Temp = 2° @ 0500, 3.5° @ 0600, 11° @ 1500. Wind 10-15 mph from East all day. Clouds began at 100% but cleared by mid morning. Then clouded over again with high cumulus throughout mid afternoon. I went through the breeding bird plot (circa 19,38) on my way out, finding a hooting melanotos σ^7 in the process, and also a singing Luscinia in willow scrub at (17,39) (see sp account).

The general objective for today's fieldwork was for the 4 of us (me, Shuford, Evans, and Swarth) to search the loop for Tryngites. In the last 4 days buffie activity on the lake (see Tryngites sp account 10 June) has deteriorated ~~to~~ from full intensity to virtually zip. While we did not go out on the 11th because of the storm, Shuford spent 1 1/2 hrs out there on the 12th, and Swarth was out there 6 hrs on the 13 and 14 of June. Nuthur saw great shako - see Tryngites sp account.

Today we split up the dry ridge/sand dune region of the loop, each taking $\sim 1/4$ th of the area. We then searched back and forth over the entire region looking for σ^7 . See Tryngites sp account for results. - we found 5 σ^7 and 1 f (probable). No nests, no new lakes. We searched 1.9 km^2 or 190 ha in 3.5 hours (14 man hours). While the coverage was necessarily superficial, we are certain that there are no active lakes. f could have been missed. While doing the survey we necessarily also learned a good deal about other bird spp using the area? See map in buffie spp account for area searched.

Habitat description - consolidated dunes now covered with dry lichen tundra and also some extensive dry Carex grasslands. No polygons. Along the ~~river~~ river and in some places back 200-300 m are unconsolidated dunes scattered with Salix and Elymus. Just behind the active dunes is a low wetland of Carex aquatilis, Dryas,

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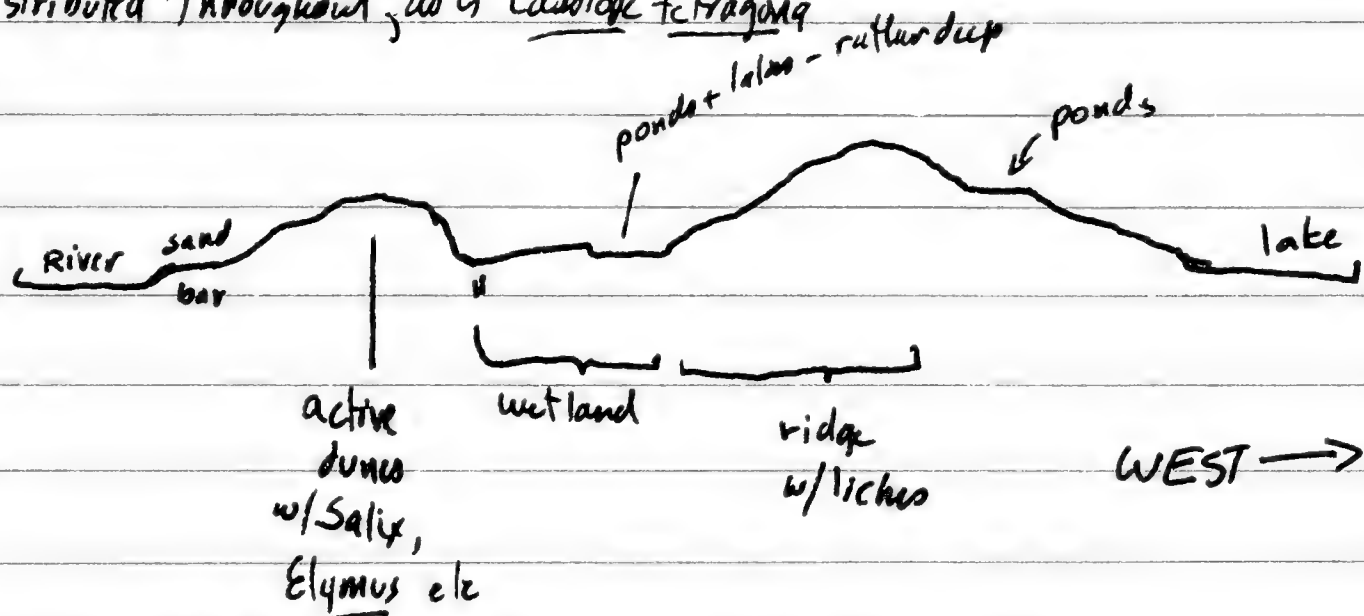
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The Loop, Atkasook, Nleade River, North Slope Borough, Alaska

15 June
(cont'd)

Pyrola, and Hylocomium (moss). Saxifraga hirculifolia is also in this
sluff, and in a few places Salix pulchra becomes abundant. Salix reticulata
is distributed throughout, as is Cassiope tetragona.



For a ^{more detailed} description of the habitat from the patch wetland region west
see transect 9 description (Myers notes + data 1977).

The birds using the area are quite limited in diversity:

Pluvialis squatarola - the most evident shorebird. w/ 1 or 2 seen

P. dominica - a few pairs

Calidris alpina - common along the ridge + especially the slopes

C. pusilla - abundant in the wetlands, just above them on the ridge
slope, and on the backside of the ridge to the west beside all the
ponds. They will forage in the dunes.

C. melanotos - rare - saw one ♀ today, although in years past ♂♂
have occupied territories along the ridge.

C. bairdii - heard one singing a few days ago

Tryngites subruficollis - occupying sites above the wetlands to the top
of the ridge. They seem to prefer areas with sparse Bromus, Vaccinium
vitis-idea, Salix phylicifolia and Carex obtusata on the ground cover
plus a smattering of taller Salix (both pulchra and glauca to
30 cm high). See Tryngites species account.

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The Loop, Atkasook, Meade River, North Slope Borough, Alaska

15 June
(cont'd)

Limnodromus scolopaceus - a pair ~~the~~ or two use the hanging ponds above the wetlands. None down low.

Ardea interpres - 3 pairs use the ridge from the N to the S end of the loop. They remain high on the ridge, venturing low only to mob. It is impossible to miss them because they enjoy mobbing parasitic jacks so.

Gavia arctica - one pair in each of the larger lakes, probably 3 pairs.

Anas acuta - we've found a nest along the river ~~on~~ ^{have} seen ~~88~~ skulking.
Not common

Somateria spectabilis - a ♀ was looking for a nest site on the buffie grid
(25, 42)

Clangula hyemalis - one to two pairs in each of the lakes.

→ Phalaropus lobatus - using the ponds in low number. Many fly over.

Ph. fulicarius - I've not seen one in a water body out here

Asio flammeus - ~~seen~~ rarely looking over the buffie grid

Acanthis flammea - common along the river in the willows and also in the willows in the buffie lek. Acanthis is one of the few species that uses the dunes.

Colaptes lapponicus - abundant along the ridge. Use stratified dunes.

Buffie LEK (25, 42) Meade River, Alaska

16 June

40° E at 0530. Left camp 0630 walked directly to buffie grid, arriving by 0830. ~~The~~ Weather nasty even though warm, with a damp east wind blowing. I remained on the loop until 1600.

Just before I began to leave the weather started turning for the better. It rained a few drops around 1000. See Irwin's account re specific details on day. Saw the banded C. pusilla that bred here last year (banded by Ark Spoons in Sursinam in 1976. We had trapped it last

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Journal

Buffie Lick (2542) Meade River, Atkasook, Alaska

16 June
(cont'd)

year and reported the bird # to USFWS. Of phenological interest - all phenology notes also: first chicks of year, 2 Acanthis nests and 1 Calcarius. This date is ~10 and 5 days ahead of last years first hatching dates, respectively.

17 June Not an auspicious beginning: at 0300 an Eskimo walked into our bunk-wannigan and began talking with us. As he offered us marijuana, I suspect he was stoned from the onset. He simply walked in and began talking loudly to 5 sleeping men. We were too stupefied to react at first, hoping he was an apparition. But finally Chris Swarth spoke up - thinking it was a friend of Jules Evens - asking them to quiet down. I then encouraged him to leave by saying we had to work. He left, but went only as far as the kitchen. So I got up and stayed with him until he left at 0400. How strange: by the time I got to the kitchen he was trying to open a can of tuna fish. He did, and put it on rye bread only to discover that wasn't to his liking. So he scraped the tuna off to ~~replace~~ an english muffin. That was better. He ate two of them. Throughout all of this he was talking incessantly. Turns out his name was Barry Akpik, and he works on the CETA program at NAKL. He's down here ~~on weekends~~ for the weekend. We should be honored, I suppose, that the hottest place in town at 3am Sunday morning was our bunkhouse.

After he left I made breakfast & worked on notes. Left for the field at 0630. Temp = 4° at 0645. Moderate, wet E wind kept it damp and chilly. But the clouds rose higher & higher & then at 1100 they ~~disappeared~~ disappeared, leaving a sunny almost calm day with temperatures remaining near 10°C. I walked ~~to~~ to the

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17 June
cont'd

Buttic Lk (25,42) Atkasook, Meade River, North Slope Borough, Alaska
buttic lck, arriving there by 0745. About 20 minutes after I arrived a ♂ Tryngites flew in and left immediately. It was not marked. I saw no other buttics until 1145. See Tryngites species account. Remained there until 1400 and came back in. Much to my dismay Chris Swarth was still in camp when I returned. NAEL failed to send a plane for him as promised.

Barrow, Alaska

18 June

After interminable delays with NAEL's flight depart I became impatient Pete and chartered a Cessna 207 from Cape Smythe Airways to pick Swarth and me up in Atkasook. They were there in less than 1 hour after we decided to request them. That's service. Returning to NAEL I found McCaffery and Gellman in good spirits, though tired. We took care of various administrative chores until 1130, ate lunch, and were on the tundra by 1200. I censused grid 1. Weather - miserable. 25 mph E wind with occasional rain drops, low clouds, 32-33° F. Remained in the field until 1700. The grid has not been worked since I went to Meade River, and it needed a lot. ♂ melanotos activity interesting - see species account. Baird's song are very dense out on the grid. Even though one nest was complete by 13 June, today it appears that at least 3 pairs have yet to complete clutching.

19 June

Moon of GRID 1, moon of strong ENE wind, cold + clouds. Out from 0730 - 1130, 1330 - 1700. I fleshed out the details on grid ~~now~~ numbers of ~~some~~ several species, and am having to revise estimates upward, especially for C. pusilla (10 territories) C. alpina (6), and Pluvialis dominica (6). Few ducks this year. Today I saw the ^{my} first Polysticta pair on the grid (they

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GRID 1, NARL, Barrow, Alaska

19 June
(cont'd)

have been seen elsewhere often) and there is a localized ♂ Anas acuta but I have yet to see the ♀. Ranunculus nivalis is blooming commonly over the ~~dark~~ flat center polygon

20 June

The wind is abating. Temperature 31°F at 0600. High fog billowing off the ice - first dark gray and oozing dull, ~~then~~ then translucent white with the sun teasing through, but only momentarily. On Grid 1 0730-1400, also grid 2. Activity as during last 2 days. But to date I haven't commented on our local Gallinago gallinago, winnowing in 3 places at least. Today a ♂ alternated winnowed ~~all morning~~ and perched, cackling, on top of a telephone pole across the road from grid 1. The display flight carried him well out over Grid 1 throughout the morning. 2 pairs of C. alpina nest cupping.

21 June

GRID 4, NARL, Barrow, Alaska

0700 on an utterly calm day, high clouds ^{but intermittent drizzle + sleet} temp ~ 34°F. One of those ~~rare~~ ^{rare} days

at Barrow when sound recording conditions are ideal. I ~~hauled~~ ^{pounded}, taking the equipment (shotgun microphone + Uher 4200 tape recorder) out to Grid 4. See the tape log for results (spectacular). Not only was weather perfect - [except for that because there was no E wind we could hear the sounds of Barrow, motors, radios etc.] But but further, Grid 4 was awash, replete, inundated, with Calidris melanotos. See sp. account. As I stood in one place on the grid it was not unusual to have 2-4 ♂♂ looking within a 200m radius circle. And as a result the tapes are good. Not only melanotos, - Limnodromus scolopaceus was ~~seen~~ displaying, as were many Phalaropus fulicarius. Grid 4 is a place to behold this year. I wish we had censused it last year + this year, but time did not permit. I am impressed, though, by how localized the activity is. It is in the low center polygon and pond region SE of South Meadow Lake.

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Grid 4, NARL, Barrow, North Slope Borough, Alaska

21 June
(cont'd)

The uplands are no better off than usual for melanotos or fulicariis, although they are full of Pluvialis dominica and C. bairdii. Grid 1 has the usual complement of ♂ territories, lower in fact than some years. Grid 2 is fairly high, but nowhere near the 1975 peak. I will summarize all this in 2 days when I travel to Berkeley + review the year. In addition to recording I also photographed melanotos host sequences at 5 frames/sec with the Canon motor drive. IAH technology! While I dallied with these matters McCaffery, Gellman, and Sarah sought fulicariis nests, especially incomplete ~~clutches~~ clutches. There are all supplementing to play with the question of determinant vs. indeterminate laying and intra specific nest parasitism. So far we have supplemented 8 3 egg clutches. Of these, only ~~one~~ two have laid an additional egg. I am amazed. But it may be due to our finding 3 egg clutches that are complete at fewer than the 4 egg norm.

22 June

Went out to Grid 4 at 0530 for more Fapping, as the wretched weather continues. Temperature 35°F, foggy. It began well, with the Gallinago gallinago that has set up shop by the Smithsonian cackling at me from atop a telephone pole. Then I stumbled onto a C. melanotos copulation [masked by background motor] + a cooperative Passerculus sandwichensis ♂. And on my way to Grid 4 while passing through Baird Alley [an arm of Voth Slough] the C. bairdii put on ~~an~~ full ♂ vocal display. But Grid 4 was not the hooting center it had been on the previous day, so I got only a few hoots plus some excellent ♂ chase sequences. Finally heading back to the lab at 0800 a group of P. naevi dangled above me, displaying on Gasline Ridge. I spent the rest of the day shuffling from Grid 1, where I censused, to NARL, where I did an administrative ~~boogie~~ boogie to get supplies to Meade River. That has been a ~~hundred~~ hassle. Following the demise of the Cessna 180 at Meade (see journal 11 June), the pilots

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NARL, Barrow, Alaska

22 June
(cont'd)

have been maneuvering in a bitter fight with operations management. They have flown only once since 13 June - to take me back to Meade. At first it was a blatant refusal, + for the last several days the chief pilot Larry Walls has been 'sick'. A classic work ^{slow} ~~down~~ ^{down}. All the science projects (all being not very many this year) are suffering. So I chartered a Cape Smyth flight for the afternoon of the 23rd.

Back to the grid. Compared to what I have been seeing on Grid 4 these last few days this area is slow, at least for melanotos and fulvica. bairdii + Pluvialis, however are quite dense. I estimate ~~near~~ ^{near} 0.2 territories/ha for bairdii, and ~0.15 for Pluvialis. These data are all in our grid books. Both figures are the highest I've ever recorded, although Pitella claims higher. See tomorrow's summary.

23 June

This spring at NARL - the shorebird/passerine scene.

Pluvialis dominica - see notes in Journal of 14 June and 22 June. A high year for Pluvialis. They are in all habitats, uplands and lowlands. While we have not banded birds I will still venture that there are quite a few floaters around also, including ♀. I suggest this because of the # of both sex we see flying about, being chased out of territories, etc. ~~where~~ Pluvialis are nesting abundantly even on Grid 4 - although the transect data may show some preference for uplands [the strong case for all previous years.

Charadrius semipalmatus - A ♂ has been displaying regularly over the lake.

Unfortunately, a construction company did in Britton Ponds, our usual Ch.s.

breeding site. They put up a camp that deprives us of a guaranteed sighting every day. But they are around.

Arremonia interpres - nothing unusual happening this year. There are the usual 2-3 pairs on grids 1 and 2.

Calidris melanotos - contradictory data, spectacularly so. In the 1st walk

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NARL, Barrow, North Slope Borough, Alaska

23 June
(cont'd)

transient totals reached levels unheard of for early June - ^{~1.1} ~~2.1~~ melanotos / ha, with ♂ + ♀ equally abundant (in fact ♀ slightly greater than ♂). That is unusual. Then in 5 day period #4 (10-14 June) there was a lull that continued through to last week. Finally during this current 5-day period (20-24 June) ♂♂ shot up to .68/ha + ♀ were on the .3's. That ♂ density is screwy, because over the uplands densities aren't that high. It indicates either that there are non-territorial birds being picked up (yes, says McCaffery) or the transects are giving us an inflated density. Whatever, it is quite a high + quite different from my previous years. ♀♀ on Grid 4 are still behaving receptively to ♂♂, with little butt-up. As I saw ♀ flights to NE beginning 18 June, + continuing through yesterday.

C. alping - steady as they go. Transect densities of .35-.55/ha. That is like previous years. Grid 1 density may be somewhat high, with up to 10 territories impinging on the 33 ha plot. The breeding season is quite protracted. 2 pairs on Grid 1 must be reentering, as from the 18-20 they were doing nest cup display. See phenology notes.

C. bairdii - In the uplands, along the coast, in gravel areas, and on Grid 1. Baird's are very dense. 0.2 ha/territory, if my data are right on Grid 1. They are breeding late also. Even now most pairs in the grid have not finished laying. I can't help but feel that bairdii's spacing system is more deviant than Pterella gives them credit for being.

C. pusilla - as thick as thicker than usual on Grid 1. Also being found out in the lowlands more than usual. Final word will come from the transects.

C. mauri - While there was almost no sign of mauri throughout the 1st half of June, they are ~~now~~ now all over Gasline Ridge + transect 8, displaying. The gang at Atkasook reports a mid June influx also.

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NAACL, North Slope Borough, Alaska

23 June
cont'd

C. fuscicollis the few that were around in early June have gone.

C. alba " " " " " " " " " "

Tryngites subruficollis - probably bred locally this year. See phenology book. But all display activity on Grid 3 (2 ♂♂) has ceased. We see ~~at~~ one or two every day.

Limnodromus scolopaceus - With at least 2 pairs using Grid 1, another 1 or 2 on Grid 2, and 3-4 on Grid 4, this place is popping with dewitchers. Swarth saw a lot of ~~pre~~ pre-copulatory activity yesterday - see Phenology book.

Capella gallinago - This is the surprise of the year. We have at least 5 males localized + displaying, and at least one has a mate:
♂ locations:

1. Smithsonian Building - a regular that during the last week has been displaying > 70% of the time we have been there. Cackling (see tape log, tape 4) and winnowing.

2. Radio antennae at W corner of Grid 2. I have heard the ♂ and ♀ displaying simultaneously.

3. NAACL lab - a ♂ winnows regularly behind the lab. It's been here for 2 weeks at least (see phenology). Had a ♀, may still.

4. POW. WAINE - ♂ heard regularly there.

5. Town of Barrow. ♂ winnowing over town during afternoon of 21 June.

♂₁ is sedentary. He is always there, & includes the corner of Grid 1 in his display flight. If the other ♂♂ are as site-specific as he, then we have at least 5 in the area.

Phalaropus fulicarius - numbers are very high in the lowlands, but Grids 1 + 2 don't boast anything special.

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NARL, Barrow, Alaska

23 June
(cont'd)

Phalaropus fulicarius lobatus - more common than I have ever seen it here. While not approaching the abundance of the regular shorebirds, we see it every day, localized, obviously nesting throughout the area. 3-5 pairs use the Grid 1, 2 area. At least 1-2 pairs are out by Grid 4.

WATERFOWL -

Gravia aegialia - a pair is on S. Meadow Lake, as usual.

Gravia stellata - they are here, cackling over the area. I was surprised however, that they arrived as late as they did given how early their ponds thawed.

Anas acuta - small numbers breeding throughout. 1-2 in area around Grids 1 and 2.

Polystichia stellaris - downy, but present. 1 pair may nest on Grid 1. ditto for Grid 2. That compares with 7 from Grid 2 in 1976.

Somateria spectabilis - a few breeding locally. As of ~~20~~ 21 June we began seeing ♂ flights to nest.

Somateria fischeri - around but scarce. See phenology.

Clangula hyemalis - very few breeding locally. None on Grid 1. There are some non-breeders in the slough, but few.

Lemmings + Predators - Lemmus trimacronatus

I see ~1 lemming/day in the field. Culting is a few, very few, places is heavy. Almost no winter nests. Almost no mounds of shorn grass along drainage.

Asio flammeus - none

Nyctea scandiaca - a few moving through. We see one every 3-5 days. They do not remain.

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Journal

NARL, Barrow, Alaska

23 June
(cont'd)

Stercorarius pomarinus - At least 2 pairs have nests, both by South Meadow Lake. None on grids 1 + 2.

Stercorarius parasiticus - They are around, with a light + dark phase seen every day over grid 1. But I hear no breeding display, nor see any chicks.

Arctic Fox - 1 pair on Utoq Slough at usual site. ~~Possibly~~ ^{Possibly} another by Ukpiik Slough

Passerines

Calcarius lapponicus - a true high over much of the area. ~~Down~~ Territory sizes ranging between 1-2 ha. Clutch sizes are lower than last year, however - see nest records.

Plectrophenax nivalis - nesting in its haunts.

Acanthus hornemanni - seen every day. 1 nesting in the Smithsonian Building stone pipe.

Passerculus sandwichensis - Singing ♂ scattered thinly in the usual places, e.g. by the Smithsonian Building and POW-MAN. I've seen ~~down~~ more in previous years.

GENERAL SUMMARY -

All in all it is a very exciting year. ~~Down~~ Shorebirds + passerines in general are up, some greatly. None are down noticeably appreciably. Upland + lowland shorebirds have bloomed. I suspect this year's biomass data will be the highest we have ever recorded. But while shorebirds and passerines are up, lemmings, predators and waterfowl are down. What does it all mean? For one, it reinforces my opinion that regional melt-off patterns are a driving variable. This year had a ~~very~~ very warm spring, + the tundra was clear 5-10 days early. River breakups were early and almost unimpaired compared to the violence of the last 2 years. The ISOMELT HYPOTHESIS - perhaps a critical stimulus part of the variation in density is due to ~~the~~ variation among years in the timing of

JPNyco,
1979

Journal

NAREL, Barrow, Alaska

23 June
(cont'd)

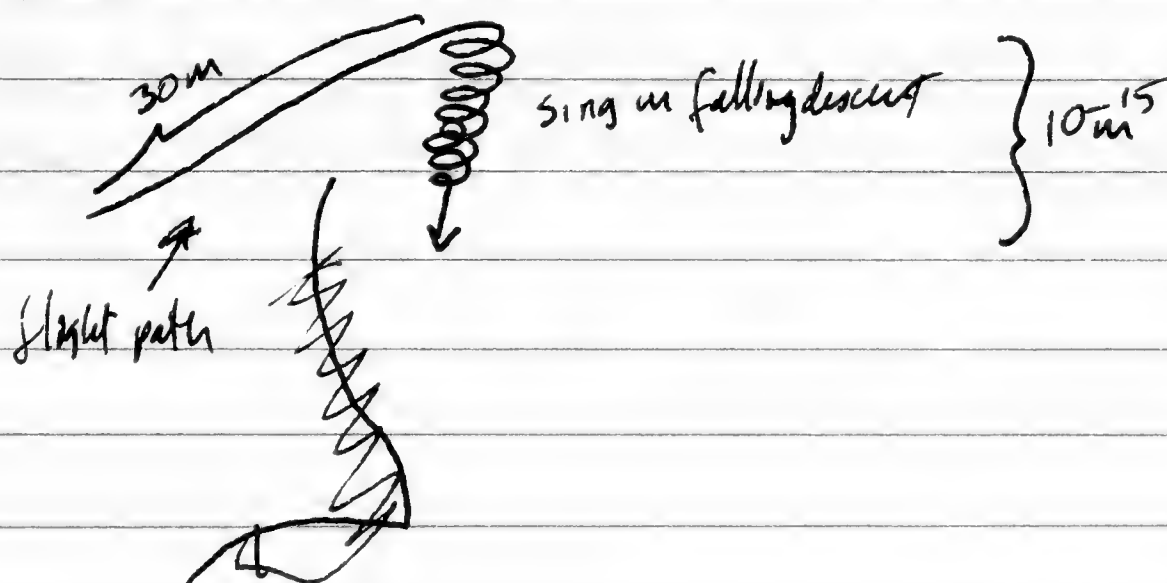
migration in relation to the timing of melt off. Imagine a threshold % snow cover: when a bird reaches that % it settles. Then in early melt years, birds would continue further (remember that Barrow + other near-littoral areas are delayed in melt compared to the tundra just 30 ~~mi~~ miles inland). And they might pile up at Barrow. The degree to which this caused large variations in density would ~~depend~~ vary among species as affected by their philopatry, especially that of 1st year birds. But all that is hazy-mained speculation.

JPM:EOS
1979

Luscinia svecica

Willow Creek (8,40) Meade River Grid System, Atkasook, Alaska

6 June 2200 hr > walked to end of runway after learning from Shuford + Evers that it had been singing there earlier. After 15 minutes I heard it soaring above Willow Creek.



The ♂ also sang while perched on a twig or the ground. Their mimicry is positively astonishing. To begin, the ♂ I listened to does an incredible ♀ Calidris melanotos chirr, interspersing that note with others while rising to the apex before it falls. Overall the song sounds like a California thrasher [psychokinetic mimicry?]. The ♂ sings beside the ♀, or when she is in a nearby bush. Perched on the ground he flicks + fans his tail + pops out the red spot on the blue throat.

This male imitates: Pluvialis squatarola, Calidris melanotos, Sturnella longicauda, Motacilla flava, Acanthis sp, and Calcarius lapponicus. The quality of its imitations are positively mind boggling. I taped a series where it gave at least the ♀ C. melanotos chirr and a Pluvialis squatarola.

9 June 1200 found ♂ and ♀ Luscinia on Willow Creek again. Imitating same set of species. Good photos

(15,39) Bluff beside Meade River, Atkasook

1430 found another ♂ with Chris Sivarth. This one imitated Pluvialis squatarola and P. dominica (nest alarm display), ♀ Calidris melanotos, Motacilla flava, Acanthis sp, and Calcarius lapponicus.

JPMycos
1979

Luscinia svecica



(17,39) Meade River, North Slope Borough, Alaska

15 June found a ♂ Luscinia singing loudly at 0700 this am. Havn't as before,
on willow near a creek. This + the first ♂ found specialize in
Salix pulchra. This ♂ did Pluvialis dominica, C. melanotos ♀,
Calcarius lapponicus, Motacilla flava, Acanthis sp, and Sterna
paradisaea. Dave ^{shipped} heard this ♂ also doing Plectrophenax.

JPMYers
1979

Calidris melanotos

Grid 1, NARL, Barrow, North Slope Borough, Alaska

- 18 June When I was last on the plot (12 June) ♂ melanotos were not very active - see journal. That has picked up somewhat, and seems to be (is) related to the passage of small flocks of ♀ melanotos headed ENE steadily, flying low over the tundra. So we see this movement again. — saw at least 30 ♀♀ in singles or up to flocks of 6 flying
- 19 June ♀ melanotos movement continues. It also looks as if there are quite a few unattached ♂♂ lurking about. 2 ♂♂ in Grid 1 [neighbors around (5,2)] are re-negotiating boundaries or one of them is inserting himself into the array. One very striking display seen 3 times — the two ♂♂ hover along the border + rise vertically to 75 m+ in the air. Incredibly similar to Tryngites tandem border high flight.
- 20 June all the activity around (5,2) has slowed down. At least 2 ♂♂ on grid 1 are ^{messing} ~~messing~~ with localized ♀♀. Got decent photos of a ♂. ♀♀ flights continue.

GRID 4, NARL, Barrow, Alaska

- 21 June So this is where they all are! See Journal, one tape log. On grid -1 from 0730-71500 to tape + photograph melanotos. It is the ^{best} ~~best~~ concentration of melanotos I have seen since 1975. Standing by the (8,3) stake there you can listen to 4 ♂♂ hooting within a 200 m radius. Each of them has 1-2 ♀♀. Activity is intense + constant. I estimate territory sizes here are <2 ha/territory. But the concentration is not area wide, as indicated by notes above from Grid 1. It picks up as you pass east ~~over~~ over Carline Ridge + get into the low center polygon / pond area by Transect 3 & Grid 4. It continues out over the Carex marsh through which transect 9 runs, and goes out along transect 10. It appears to be a

J P Myers
1979

Calidris melanotos

Grid 4, NARL, Barrow, Alaska

21 June
(cont'd)

a high of epic proportions only in the wettest of low, wet habitat. I cannot wait to see the transect habitat results. ~~See~~

22 June

0615 at Smithsonian Bldg: COPULATION!! It began with ♂ in grouse display, changing to intensive grouse and accompanied then by rolling grouse call. ♂ behind ♀, ~~re wing~~ wing up then wings up, ~~squawking~~ squawking horribly, waving his wings, raising + lowering his neck. Then he mounted. Squawking continued unabated as he hovered over her, treadling her back, wings fluttering. He hovered for ~ 1.5 MINUTES! I ^{was} ~~faced~~ ^{audio} much of the action but was vexed by motors in the Barrow area. The ♂ changed his tone just as copulation ended + he flew off.

DAILY LIST: BARROW, NORTH SLOPE BOROUGH, ALASKA

[illegible]

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

[illegible]

[illegible]

Myers, J. P.

1978 - 1980

Alaska

1980: Journal
Species Accounts
Daily Lists

Myers
1980

Journal

Barrow, Alaska

28 June Arrived at 1710 in the Wiley-Post Airport, downtown Barrow. Again as last year, I marveled through the trip at the painfulness of reaching the arctic now, compared to what Nelson or Murdoch or Bailey experienced.

Imagine this:

San Francisco to Seattle	1 hr 28 min 17 sec to touchdown
Seattle to Anchorage	3 08 15
Anchorage to Fairbanks	0 41 24
Fairbanks to Barrow	<u>1 11 01</u>
	6 hr 28 min 40 sec

or 23320 SECONDS of flying time. That is ORSCENE.

Zimmerman was at the airport to meet me. Another NARL ~~had~~ hand was there also, + we quickly turned to what must be the dominant theme of the summer — the impending shut down of NARL on 30 Sept. This other man, an ITT employee, had the most insane explanation of all. He swore that it was due to the Fed's closing polar bear hunting. Without that, the Navy brass had no interest in coming North. Open the polar bear season again, he maintained, and NARL would enter a new era of prosperity. Malarky. My own suspicion is that mismanagement combined with excessive labor costs + reduced Navy budgets are at the root. But enough of that.

Weather today — 15 mph NE wind, no clouds, ~30°F. Snow is melting everywhere but there is so much of it that the tundra has a long way to go before becoming clear. In fact, we flew over Atkasook on the way in — even there the tundra is 100% snow. Birds — I saw little but did not get outside except in camp. See daily list. There have been 2 Asio flammeus reported but no Myiaca. Someone was certain they saw a weasel. The lead is ~1000 m off shore and ~5 km wide.

Myers
1980

Journal

NARL, Barrow, Alaska

29 June Up at 0400, in the field by 0430. Walked all around camp + then down to the Britton area and the dump. Temp = 19°F at 0430. Same at 0630 when I returned. Wind ~12 mph from NE. No clouds. On the trip the most remarkable thing was the flock of Arctia interpres roosting at the dump: 75+. I have never seen a larger flock. They wheeled about after I spooked them. With them were two Calidris alba + 2 ♂ C. melanotos.

The other ornithological note of interest was that the many Plectrophenax there - mixed ♂ + ♀ - were not the least aggressive. This, in spite of the fact that around camp ♂♂ are in full display.

1030-1330 took a snowmobile out along the transects, going beyond #10 to FAP's old beach ridge study site, then back to camp via the DEW line site (Pow-Main). The essence of the trip was snow. Everywhere. Very few tundra knolls are without at least a glaze of snow. Most are deeply covered. All transect + grid units were 100% covered. The birds quickly disappeared once I left the area strip right along the coast. One Nyctea scandiaca was on Grid 2.

No other birds ANYWHERE on the grid/transect system. The snowmobile broke down near the DEW line station and I walked in. Typical.

1500-1630 Terry Hall and I went to the Britton area for another perusal. Temp climbed to 25°F. No wind. 100% overcast. The flock of turnstones was there; they had been joined by a pair of C. alpina. No melanotos to be seen.

Terry and I collected a Vermivora cclata. Saw one Eximophila spectris.

Nowuk, PT Barrow, Alaska

30 June 0645 took snow mobile off toward Nowuk at the tip of Pt. Barrow. Wind 10-12 mph from N. Temp 23°F. 100% overcast, slight snow. Approx 2 km from the Point the snowmobile broke down - I continued on foot, reaching the area at 0845. Remained until 0845, walked back to snow mobile, repaired it. The bird scene was

JPMYers
1980

Journal

Nowuk, Pt Barrow, Alaska

30 May
(FMTA)

a zip. Dotted along the spit were ~20 Pterophenax. At Nowuk itself I found ~~1~~ Calceus and 2 Acanthis. A few Larus hyperboreus flew over, and one large flight of Somateria spectabilis and S. mollissima went past. But that was it. Nowuk was largely snow-covered with the area immediately at the Point barren. I was particularly unhappy about the lack of eider — it may have been due to the 10-15 mph N wind, cold. ~~December~~

Britton Area

1130-1215 Tony Hall and I cased out this spot. It continues to be the only good area around. The Arenaria flock is still here, and several alpinus plus a few basidii and 1 pusilla are remaining nearby. All the birds are in flocks. Only the Pterophenax + the Calceus occasionally remind you that breeding is ~~soon~~ imminent.

1700 I was to have flown to Atkasook. Weather did not permit.

31 May

NARL

0900-1000 took a snowmobile for a zip around the transects. The weather remains foul — 15 mph off the North Ice. It snowed last night. Temp at 0600 = 19°F. Not your spring day. There were no birds away from the coast.

1145-1330. Birding with Tony Hall at Britton area, Pow Main, and the Bluffs in Barrow. Britton hasn't changed, POW MAIN has been abandoned by the golden plover that were there yesterday, but the Bluffs are in top form: 1 Zonotrichia leucophrys, 1 Exceus naevus, 1 Parusculus, and one ** Melospiza lincolni **. Several pusilla and alpinus in Brownsville. No one is thinking about nesting yet. I had to leave at 1330 to ~~catch~~ catch a plane to Meade River.

Flight in a Cape Smythe Cessna 207, took ~30 min. The tundra between Barrow and Atkasook is solid snow. It's only along bluffs of the Meade that any tundra sticks through, and these spots are sandy + wind blown.

JPM Myers
1980

Journal

At Kasook on the Uluks River, 100 km S of Barrow, Alaska

31 May
(cont'd)

200 m away from the bluff and it is all snow. A flock of 30 Anser albifrons plus 2 Shore hypoleucos wheeled in the river beneath us as we ~~later~~ approached the strip.

Upon landing I immediately found a rich set of birds on the airstrip - Arremonia, Calidris alpina and melanotos, Pluvialis squatarola, Lagopus lagopus, Calcarius, Electrophenax, Icterus nactus, Stercorarius parasiticus and longicaudus. It seemed to indicate that the season was well underway here, at first. But then I realized (after 2 hrs of dragging equipment to the camp) that not one was displaying.

At 1700 I left for the buffie lek (24,42) walking into the wind along the river bluff the whole way. En route I saw no shorebirds. On the grid at the lek were 4 C. alpina and a few Calcarius, ~~not~~ plus 150 Branta bernicla on a frozen pond hidden from the wind by a sand dune. From the grid I could see 8 Rangifer; their winter/spring grazing was obvious along the whole trip. On the way I left my tent at the grid and also a bit of equipment. On the way back I saw 4 P. domesticus and 1 Arremonia. That was it for shorebirds. Reached camp at 2130.

1 June

20°F and 15 mph outside at 0600. I decided that caution was called for - there was no sign that bird life was picking up and I had a sore ~~throat~~ throat. I therefore limited myself to a 2 hr hike around 0800 and another 1 hr outing at 1900.

Of interest during the latter was my first sightings of Stercorarius pomarinus flocks - one of 7 and one of 15. I had seen one in the morning. The wind blew all day long and the temperature remained in the low 20's till mid-afternoon. By 1900 it was around 30.

2 June

20°F and 10 mph outside at 0800 so I decided to trapee about. I first went to the west end of the runway [(8,41)] then I circled back around camp and took the bluff trail to Butterfly Creek [(16,39)]. At that point I cut down into the river, following it to approximately (18,41). I then emerged from the

JPNHus
1980

Journal

Atkasook on Meade River, North Slope, Alaska

2 June
(cont'd)

river and headed directly to the Tryngites grid (24,42). Fast I reached there at 1030 and for the next 1½ hrs I tramped around it looking unsuccessfully for buff-breasted Sandpipers. After that I went south to (25,36), east to (28,36) and then NE along a lichen bluff paralleling the river as far as (29,39). From there I returned to the Tryngites grid, searched unsuccessfully again, and then headed back to camp following the river the whole way. Arrived at 1600. Weather improved beginning 1430, when sun began to break through patches in the low 100% cover that had held all day. Temp reaching 30-32°F with snow becoming soft. Wind slackening ^{to 10 mph}. At 1554 I heard the first Calcarius song of the year, a happy fellow behind camp. Simultaneously I saw a Pluvialis dominica in flight display back behind the runway. SPRING!?

3 June

This was one of those days that, as you live it, you know you'll remember it. It wasn't as spectacular a spring arrival as 29 May 1978. But it was a solid second, and it made clear its intentions within 3 min of my having left camp as a Motacilla flew over freezing. Temperature at 0600 was ~28 with a 5-10 mph NE wind, ^{50% low clouds}. Not ideal, but compared to the last 3 days who would complain? Calcarius were singing all around camp [although curiously this was their hottest area - same for scattered individuals here + there all others were quiet.] No one else but the Lagopus were displaying when I left camp (0815) but by 1pm I'd heard Pluvialis dominica and P. squatarola, Calidris pusilla (10:15), C. alpina (11:45), C. melanotos (10:50) and C. mauri (13:00). In none of these was the displaying persistent but even still it was a welcome change. 2 Limnodromus scotopaceus singing. Both Stercorarius parasiticus and S. longicaudus in territorial disputes; S. pomarinus beginning to move by in number (see spec. acc't). By 1300 snow was melting in the sun and the breeze slackened even further. Temp probably 35°. Snow is mushy and twice I went in to my thighs. Yet despite all this, no Tryngites (see spec. acc't). J

J P Myers
1980

Journal

Atkasook on the Meade River, North Slope, Alaska

3 June
(cont'd)

walked from camp out to (245, 42), following the river trail. I remained on the grid from 1000 to 1530 without any sign of a Tryngites. Snow melted considerably while I was there. I would guess that yesterday the transects were 75% snow covered. With another two days of this they will be under 10.

Pisio flammeus — I should comment on this species. It is incredibly abundant this year. At any given time I can usually see one or two in the air within a 3 km radius. Between camp and the ~~Meade~~ Tryngites grid I pass by, minimally, five or six distinct individuals. I have seen a few flight displays. Today I learned that they are easy to call in; simply squeak at them + they come to investigate.

4 June

0800 left for Tryngites grid. Arrived 0915. Weather began somewhat ominously. At 0930 it was heavy fog with a thick ~~at~~ rime frost over everything. Temp about 26 then but by 0800 it was above 32°F. 10-15 mph NE wind (what else). No Tryngites on the ice. I searched the western loop diligently to no avail. At ~1130 I put up my tent and at noon it began to rain lightly. Remained there until 1430 then did another search of the ice + walked back to camp. While in the tent my front porch was the scene of some willow ptarmigan sex. The ♂ + ♀ came by, male uttering a short version of the alarm food call every 3 or 4 minutes. Then the female began to shake her head, violently back + forth as if in a seizure. Each episode was only for ~~200~~ 2-3 seconds and they occurred ~1 every 1-2 minutes. The ♂ approached without much ceremony (none), hopped on her back + copacal contact. As soon as he got off he choked ~~her~~ her for about 30 sec. They returned to feeding and the ♀ head jerking did not reoccur.

Movement by all shorebirds continued today. Only a few individuals of the two Plover sp were seen flying unidirectionally + nonstop, which I

agapit
agapit
notes

J P Myers
1980

Journal

Atkasook on the Meade River, North Slope Borough, Alaska

4 June
(cont'd)

take as birds still in migration, or at least not yet at their breeding site. Most conspicuous today were C. melanotos and Phalaropus fulicarius. Individuals and flocks of these 2 spp moved by incessantly, one every few minutes. C. alpinus and pusilla were also conspicuously on the move, as was Limnodromus scolopaceus. And today the ducks really began to move in. I saw >100 Anas acuta flying by. By evening 30-40 Plangula hyemalis were roosting on the river. Two flocks of Somateria fischeri and 2 of S. spectabilis also appeared. Aythya americana arrived. etc etc. Sterna paradisaea are hunting on the river by (16,39), waiting, I suspect for their local breeding ponds to melt. They congregate there every year.

With the rain the work stopped. It remained down until beyond when I went to sleep at 0015. The rain stopped by 1630. At 2000 I took the tape recorder out to the Trynity lake, trying to tape Pluvialis squatarola en route. It was a gorgeous evening. Gavia adamsii beginning to call. Stercorarius pomarinus & other angels swooping past in large numbers. No wind & I was spoiled only by the incessant growls of Bunnell's generator and noises from town. I am amazed at how well such sounds carry out here without wind, and equally at the amount of noise the village now produces. It's still the tundra, but it ain't wilderness.

3 Trynity were on the lake. (See sp account)

5 June

Began slow because I had to go to town to get a message to NITEL. Left for bullie grid at 1300. The fact that it rained hard for several hrs between 0600 and 0900 didn't speed me up either. As yesterday evening there were ~~4~~ Trynity on the grid, another in the 1.0-2.0 region (but also by 1.5). I tracked one for a 10 min but lost it, and then had difficulty finding others. It looked as if the spot I had found was a minor display area so I searched the loop once again. Found none anywhere else. Returned to the grid and tracked several from 1800-2400. See sp account.

JPMyers
1980

Journal

Puffin Lake (26,42) on Atkasook Gnd, North Slope Borough, Alaska

6 June

Slept in on the Tent this morning somehow, not up until 0830. Remained on the Puffin Lk throughout the day, tracking intermittently while also trying to catch and band birds while also trying to determine the limits of the lek. Quit at 2330. Weather, fortunately, remained spectacularly benign. While through the whole morning there was a 10-15 mph W (!!) wind, it picked out ~~near~~ around 1800. From then on it was calm. Clear all day. Temp never dropped below 32°F and rose into low 40s. The river began rising sharply during the evening. Almost all the snow from areas near the river is gone. Further inland there is much more snow. The lek itself is virtually clear as of this afternoon. A of great interest to me is that sites which last year were the primary copulation centers are now in several inches of water. See sp accat. The obvious movements of most species has ended by now. ♀ melanotos are still prancing, *laugh* but even they seem to be far more local. During the evening all 3 spp of *Savina* were calling loudly from in or over the river.

7 June

Worked on grid throughout the day - but went back to camp near Atkasook at 1700 or so. Remained there 3 hrs and then returned to ~~the~~ the grid. Tracked *Tryagites* until 0300 on the morning of the 8th. The day was warm but somewhat windy. Strange W and SW winds continue. Periodic high cumulus threaten rain but only a smattering occurs. The temp at dawn was below 0°C with ice on the porch. It rose to 40 or so in the day but by 0300 was again below freezing. Each night has been spectacularly calm.

8 June

Arose 0930 (egad). Wind up from SW to 15 mph but temperature warm to about 38°. See *Tryagites* sp accat for details of the day. The most excitement apart from the *Tryagites* was the river, which rose, and rose, and rose. Periodically flotillas of ice bergs came drifting downstream, suggesting yet another blockage point had broken free. The boggie, however, has yet to open. This is the loop in front of the village of Atkasook. It is backing water up spectacularly. By 2330 when I reached camp (tracked BBS

JP Meyers
1980

Journal

Atkasook on the Meade River, North Slope Borough, Alaska

8 June
(cont'd)

all day) It had risen $\frac{2}{3}$ of the way up the bluffs in front of the NARL Meade River camp - a ~~total~~ total height of 10m. The water was edging back over the tundra forcing me to detour over a ~~short~~ km inland by Butterfly Creek. In fact, I usually can cross Butterfly at the mouth into the Meade (16, 39). This evening, I had to go all the way south to Transect 6 (17, 35) in order to get through. This means that vast areas of the tundra around the banks of IMR are inundated to varying degrees in different years. A phenological note - first humble bee today and the *Eriophorum vaginatum* are budding. Back to the river: the flooding has somehow encouraged lots of puddle ducks next to the river. I saw more *Anas crecca* today than I have ever seen at Atkasook. *Anas acuta* also abundant over the flooded tundra.

9 June

Awoke at 0730 and spent the next few hrs preparing camp for departure. At 1000 a helicopter arrived, wondering where I was. It turns out that the letter I sent NARL on 4 June never arrived and they know nothing of my health. I was hoping to see the heli shortly because it solved my next problem - how to get gear from camp to the Atkasook. I had to solve this because the Bonnells decided to grade the NARL landing strip by camp, and have thus rendered the site useless for me. After I was flown by heli to Atkasook I waited until 11am for a Papp Smythe plane to Barrow.

10 June

1200 reached camp after a flight down from Barrow. The wind is back to normal - 10-15 from NE. Clear sky upon arrival but clouding gradually throughout day until began raining at 2200 hrs. I left for the buffer ckt at 1300, arrived 1420 and immediately began tracking. Detailing in *Tryngites* sp. recent + tracking notebook. In general, it is depressing. As far as I can tell there are now only 3 resident

JPMyers
1980

Journal

Atkasook on the Ikroavik River, North Slope Borough, Alaska

10 June
(cont'd)

♂♂ on the lek - one banded (RW:wm). There 3 are in the (8,4) - (11,4) region of the banded lek. Infrequently (thrice) during the time I was out there (1415-2115) I saw flashes of ♂ activity by the (2,1) region, but when I went to investigate no one was there. Only a few birds flew in all day, mostly solitary males. I saw several sets of ♂♂ feeding together briefly around the periphery of the lek. One ♂ that I tracked, 80/6/10-3, had a ♀ visitor on his place the whole first hr of tracking, but nothing ever came of it. ♂ 80/6/10-2, a real nuch during previous days, had several visitors fly in, including one ♂-♀ pair. All that 80/6/10-2 succeeded in doing with them, however, was getting himself raped by the ♂. He and RW:wm fed over very large areas - see tracking sheets for details - much larger than anybody else to date. In sum, it looks as if activity is fading. Perhaps tomorrow will be my last day. [A phenological note - Saxifraga oppositifolia is blooming as of today on the ridges by the river.] The river has receded quite a bit since the crest on the evening of 8 June, down by ~1.5 m. This leaves enormous blockades, some 4 m x 3 m x 1.5 m, stranded along the river's edge. The main ice jam in front of the village of Atkasook was gone when I flew in this morning.

11 June

After a late night last night did not reach lek until 10am + found parts of it hopping hopping. Weather balmy - I wore a sweater while tracking + was sweating. Light SW winds, clouds varying from <10 to 60% until a squall line moved through at 1600. I stayed on the grid until 1800 then returned to camp. Will return to the grid tonight leaving camp by 2000. It may be that the quiet of yesterday was due to weather (cold + windy) or to the hrs of my observation - 1400 - 2100. Anyway, from 1000 to 1500 today it was fairly active. See Tryngites account. Banded 3 more Tryngites. 2000 - 2030 there was on way to or at Tryngites grid. Tracking from 2200 m. Slept on the grid in a tent. See Tryngites account. Some very intense ♂♂ interactions.

12 June

Up at 0630, tracking by 0700. Remained on or around grid today until 1630, then

JPH:mg
1980

Journal

Buffie Lek, Atkasook, AK

12 June
(cont'd)

returned to camp. Banded one more ♂, a resident. Through the day I saw only 4 ♀ visitors to the lek. ³ of the males must be kind of bored because they're not getting action. Only 4 males left on the lek now, 3 banded. [Phenological notes - Salix pulchra leaves starting to green; Salix alarkensis beginning to have catkins. Flying insects about, including Bombus since yesterday. Quite a few chironomids today. Yesterday and today there has been repeated NE movement by ♂ Anax acutus - tight to the tundra and quite directional + fast.

Weather today mostly pleasant but a bit unusual. As yesterday the horizon is frequently given over to towering cumulus. Until this afternoon most of these, moving to the NE, have missed Atkasook. This afternoon one moved in, however, and it has been a strong squall - wind and rain. One moved through last night, also, after I went to bed. Wind is SE or SW going to 20 mph. Temp is 40° or so, except it becomes very balmy whenever the sun comes out.

13 June

Up at 0330, on lek by 0540. Weather may be recovering from last night's squall's: 100% low overcast, very light NNW wind, temp in high 30's, occasional light drizzle. I remained on the grid until 0850. During that time I found the 3 banded ^{Thryngites} ♂ and tracked 2 of them. Could not locate #3 when the time came - in fact all 3 left. One ♀ Thryngites visitor in 3 hrs. Not your hopping lek. Returned to camp, closed it up, rushed gear to Atkasook only to have to wait 6 hrs for a plane. Hurry up and wait. Upon returning to Barrow at 1830 I found the roads were closed to Brownsville because the reservoir washed out. Hence I had to walk part way to NAREL.

JP Myers
1986

Journal

Grid 2, NAKL, Barrow, Alaska

16 June

On the Barrow tundra at last! I've spent the last two days inside working on Atkasook Tryngites notes. This am @ 0830 went to Grid 2 in order to work on Calidris melanotos. Remained on G 2 until 1430, then walked to G4, then back to NAKL @ 1630. Weather spectacular. 32° @ 0500 (up @ 0300 to finish notes). Light NW wind. 0 clouds.

The melanotos scene, however, was a big disappointment, w/ a few ♂♂ and fewer ♀♀ on the grid and elsewhere. See melanotos sp account.

17 June

Up at 0330 and on Grid 2 by 0445. See melanotos sp account. Weather balmy - almost no wind and until 1100 no clouds. Temp 34-38°F. I censused the grid through the day from 0445-1330, then returned to camp. The morning began with a bit of drama as I found 3 different jaegers eating 3 different shorebirds: 1 S. pomarinus eating either a C. melanotos or a C. bartholemica (it flew off with its prey) and 2 S. parasiticus, one with a C. pusilla and the other a C. melanotos ♂. Yesterday we watched a S. parasiticus eat a Calpinus. Today McCaffery saw an S. parasiticus catch and eat a P. fulvicastrus. It's not a safe place to be a shorebird on the tundra. Two nests found yesterday on Grid 2 were torn asunder by jaegers in the intervening time: that of an Anas acuta and a Calcarius. It looks as if the jaegers are turning to birds. I should note that the Lemmus picture is rather spotty: a few places have heavy, complete grazing, spread over 0.25 ha or more. But most cutting involves a few square m, or at most a radius of 5m. Winter nests are spotted throughout the tundra. Thus there were lemmings around but they have crashed from whatever density they attained. The jaeger scene reflects that: at least one pair of S. parasiticus is defending near Grids 1+2, but there is also a S. pomarinus ^{pair} defending also. Further, there seems to be a single light-phase S. pomarinus defending a small area on Grid 2. Finally, Asio flammeus continue to abound. One or two hunted near Grid 2 all day long.

JPL Myers
1980

Journal

Grid 3, NARE, Barrow, Alaska

17 June

It looks as if a melanotos hot spot is developing here. On 14 June there were 3 ♂♂ on the grid. This afternoon it is at least 5, and most importantly, there are melanotos ♀♀. See melanotos sp. account. I was on the grid from 1630-1950. Moderate NE wind at 10 mph, temp 35°F. No clouds.

18 June

0300-0700 tracking a banded ♀ melanotos with an incomplete clutch. We have divided up the day to get her ~~24~~ continuously until her clutch is complete. At ~~1200~~ 1400 ~~she had~~ yesterday she had 2E, at 1600 3. Display activity continued in all birds throughout evening, although the period 0300-0400 seemed rather quiet. It was a sunny windless night with the temperatures dropping to ~0°F by 0600 (ice on a few ponds). See melanotos account and tracking data for details of session. 1500-1730 I took my second shift. By then the wind had come up and clouds over. Temperature rose also, however, to ~38°F, making matters a bit more tolerable. The female laid her 4th egg around 1600.

19 June

Tracked a ♀ from 0400 to 0500 after going out at 0300. The tundra this morning was much as yesterday am. Bright, low wind, temp ~0°C. Birds displaying throughout. The Pluvialis dominica situation is intriguing - see phenology notes on this species. Phenologically the tundra progresses as ever - a smattering of ♀ Phalaropus fulicarius have begun to appear. Carex is greening, Salix pulchra has put out catkins, the Pedicularis lanata blossoms are furring out; and of course Ranunculus nivalis is in full bloom. Thus the heavy snow and late melt appear not to have retarded progress too much. In fact this must be due to the very atypical cloudless, fogless weather that has dominated here. Recall the series of days at Atkasook with persistent ~~SE~~^{SW} winds there were seen here at Barrow as well. The net effect of the weather has been to produce a melt-off schedule that is not any later than 1978, which was the latest year in my experience (75-80). Comparing snow cover data from

JP Myers
1980

Journal

Grid 3, NARL, Barrow, Alaska

19 June
(cont'd)

The transects yielded a 50% cover date of ~11 June, compared to 13 June (1976), 9 June (1977), 10 June (1978) and 6 June (1978). On the other hand, the 100% values persisted as late this year as in the latest year - 1978 - through to 4 June. And the cold was impressive. Anyway... after tracking the ♀ I returned to camp at 0700, then came back out at 0930 to track again. Remained until 1430 tracking another ♀. Action on the Grid is continuing to pick up with more ♀♀ around than ever. We found 2 more melanotos nests each with 2c (although one had a 3rd egg by 1100). And the weather was again balmy - 38°F, no clouds, and until 1200 no wind.

20 June I returned to the field once more, this time to Grid 3 and once again to track a ♀ melanotos. Remained out until 0800, tracking from 1100-0500. No clouds and temp remaining between 0°C and 2°C. The wind was from the NE @ ~10 mph when I went out; it fell to <5 mph for 2 hrs around 0300 but picked up to 12-15 by 0700. Made life a bit cold. The female I tracked populated at 0317 - see tracking account and melanotos account. As last night action was continuous, although it ~~dropped~~ abated between 0300-0430, particularly in melanotos and alpina. Pluvialis dominica displayed all night. Grid 3 is a rich area this year - see census results. There are dowitchers, C. mauri, C. pusilla, C. bairdii, C. alpina, C. melanotos, a pair of C. canutus is seen almost every day. Asio flammeus hunts them incessantly. And in the lowlands to the East from the ridge we have a thick lowland community of ducks and shorebirds, including at least 2 pairs of Anser albifrons - very atypical for Barrow. Polysticta stelleri is ABUNDANT this year, as is Anas acuta. In fact the duck scene is impressive, as good a year in numbers as 1976, the year of the maine drought. It may be better than that year insofar as actual breeding densities are concerned, particularly in Polysticta and Anas acuta.

JPMycers
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Journal

GRID 3, NAHL, Barrow, Alaska

21 June

On grid 3 0000 - 0600 and 1000 - 1200. Pectoral activity increasing further, with both ♂♂ and ♀♀ continuing to arrive. The weather through the night was warm - 38°F --, windless, and with sporadic showers out of the south. Returned to grid at 2300 to track an unbanded ♀ melanotos - see

22

tracking record. Remained through 0600 of 22 June. Temperature when I left the laboratory was 34°C , (WSW) wind $\sim 10\text{ mph}$, ~~mostly~~ clouds.

22 June

2345 - 0545 tracked ♀ melanotos. See ~~also~~ melanotos sp account. Fog moved in ~ 0330 + simultaneously most bird activity ceased. Birds resumed @ ~ 0445 with *C. alpina* and *Calcarius lapponicus* beginning display. Fog moved out as wind came up at 0515. See *C. melanotos* re afternoon of 22 June

23 June

0000 reached GRID 3 for another tracking session. ^{98%} clouds 37°F wind $< 5\text{ mph}$. Slight rain, intermittent through evening. Remained w/ ♀ redhead from 0000 - 0700. See melanotos sp account. 2320 came back out for yet another session, and

24 June

stayed through the wee hrs again. $\sim 34^{\circ}$, absolutely no wind and at the most only a thin line of fog on the horizon. This moved in by hrs, unfortunately Tracking ♀ redhead again 1558 \rightarrow 1900. Temp 38°F , no wind, ^{to 5 mph NE} 10 clouds. BALMY. Potentilla is blooming now; the Ranunculus nevadensis is beginning to show signs of fading. Pedicularis lanata breaking out all over. Salix pulchra ~~is~~ in full catkins. Carex aquatilis, Dupontia fischeri, Eriophorum rusciculatum all greening strongly. Illegale verano!

25 June

Up at 0130 to work on notes. Fog rolled in at 0230. The return of normal Barrow weather? Mid + late June have been spectacularly benign. By 0800 the fog cleared with a 10 mph NE wind. Temp 33° . I tracked a pectoral ♀, Redhead, from 0923 \rightarrow 1400. Tex Sordahl took her from 1400 - 1750. I then took over from 1750 \rightarrow 2250. The late afternoon was clear, a high cirrus cover of 15%. Moderate NE wind at 15 mph from NE. Temp = 39°F

SP Myers
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Journal

GRID 3, NARL, Barrow, AK

- 26 June 1350 on Grid 3 tracking a ♀ melanotos. - see tracking data + sp. account. Remained with birds until ~ 2200 hrs. See tracking notes, melanotos sp. account.
- 27 June Began tracking GW:GM @ 1340 42°F, many bugs about. 20% clouds light NE wind. Remained on Grid until 2000. See melanotos account for details.
- 28 June Tracking melanotos on Grid 3 - see melanotos account for details.
- 29 June 0400 on Grid 3, sky 95% clouds, 35°F, light NE wind @ 5 mph. Came to track GW:GM - McIlhenny, Sordahl + I will take successive shifts through the day. While I found her immediately, I couldn't locate GW:GM until 0526. See tracking data + melanotos account for more details. Tracked until 0830, then returned again at 1630. Weather remains benign - 40°, no wind, no clouds. See melanotos account for details. One of the warmest days of the year, with chironomids buzzing about, enough mosquitos to notice, tipulids (esp. Pedicia) crawling about. Some of the smaller flowers, e.g. Potentilla, Draba, starting to appear.
- 30 June 0315 reached Grid 3 - 38°, 0 wind, 10% clouds (on horizon). This is the CLEAREST morning I have ever seen at Barrow - 9 Nyctea visible to the horizon from here. Flocks of melanotos and Ph. fulvirostris have been passing overhead - conspicuous today - and there are literally hundreds visible at times in dense flocks over the lowland marshes. Also flocks (smaller in number) of Limnodromus scolopaceus.
- 1 July Out to Grid 3 @ 0430 for yet another tracking session. Morning much like yesterday but with a slight NE wind: 36°F, 20% high clouds. High visibility. En route along Airline Road I saw 100-200 melanotos in flocks using areas disturbed by ~~previous~~ previous years' collagan brand. They are with small flocks of Limnodromus scolopaceus.
I found Limp immediately and GW:GM at 0603. Began tracking + continued until 1000.

J.P. Myers
1980

Anser albifrons

Atkasook, on the Mcade River, Alaska

24 May

Saw a few albifrons from the plane as we flew in. Then on my trip out to the Trygites grid I saw several flocks of 10-15.

2 June

a few anser seen as I left camp, flying by in pairs. Biggest group I've seen found in area of (26,37) - approximately 90 in a single flock, down on the ground in puddles in sand dunes. At 1530 I saw first sign of breeding aggression - a bird chasing another very persistently up the river.

3 June

Large flock still there at (26,37) ~ 1145 but broke up during afternoon. Many small groups - 2, 3, 4, 5 etc flying every which way, "tala-ticking". As I came to Butterfly Creek, Billy Bunnell was there with his 2 yr old daughter, hunting white-foxes. He does a stupendous imitation of their call, and they come in directly.

8 June

few flocks about but many pairs and single birds flying overhead all the time.

9 June

Only saw 3 today, ~~two~~ two on ground and one solitary flying.

13 June

continued to see small numbers flying around every day

19 June

~~Sparrow~~ remarkable number of albifrons still flying about, particularly east of Carline Ridge

see Camp Phenology notes for more detail

1 July

~~Barren~~ found Anser albifrons nest by Carline Ridge - 6 eggs

JPMyers
1980

Branta bernicla

Atkasook on the Mcade River, North Slope, Alaska

~~28~~ 31 May 1800 a large flock of 150 Branta wheeling over the river. They landed there on the ice at (~19,42). I walked up on them and they flew further E, finally settling on the Tryngites grid @ (25,42).

2 June Many Branta still at the east end of the loop, some (~26,42), others (27,41), totalling at least 150. They are down in the sand dunes where the snow has melted and puddled.

4 June far fewer brant today. None seen flying; only saw 30 or so at ^(27,41) ~~(26,42)~~

9 June saw 5 today for first sighting since 4 June

11 June 0 - none.

JP Myers
1980

Calidris melanotos

Britton Area, NAKL, Barrow, Alaska

29 May 2 forlorn ♂ melanotos here at 0530. huddled behind a tussock on a polygon near a large flock of Pinguin

31 May Barrow, Alaska
1 ♂ in town

Atkasook, Alaska
31 May 1 ♂ by airstrip

1 June ditto

3 June A pretty sum on! today, but the movement in at melanotos appears to be underway. A few scattered males flying during a.m. Then at 1145 heard a ♂ hoot and chase a ♀, who was churring. At 1430 found a large flock of 15, looking like ~13 ♂ and 2 ♀. A ♂ went up to another male + gave a good rolling grouse call. A few other flocks of 5-10 seen head NE. No persistent display.

4 June Heavy movement by melanotos today. Flocks of 5-15 moving past, NE usually, almost once per 5-10 minutes. Many are also settling down. In evening ~~observed~~ (2000-2400) I spent about an hour in the midst of a thick ♂ army, incessant hooting, border fights, some grouse displays and a few PF. The pectorals are rolling again at Atkasook.

7 June PF still moving today but many are localized. ♂ hoots everywhere.

8 June repeated ♀ flocks going SW!

11 June Not any hooting today; I spooked a ♀ off a nest w/ 3 eggs. ^{♂ quite} Melanotos conspicuous but no hoots (??). 2300 hrs. Hooting common this evening. Heard a long rolling grouse call near Trinity's grid

NAKL, Barrow, AK

16 June On Grid 2 to track ♂ and ♀ melanotos Today. On 14 June Sondahl recorded over 10 ♂♂ on the grid. Today there were 3 residents with huge (>10 ha) territories and

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Calidris melanotos

NARL, Barrow, Alaska

16 June
(cont'd)

There were also numerous non-residents, evident because of frequent ♂♂ chases and because of ♂♂ without well developed breast sacs.

♀♀ numbers very low. In 2 hrs of tracking one ♂ (80/6/16-1) known it contained only one ♀, far less than I had expected. ~~♂~~

See Tracking record for details. In fact the first ♂ I picked to track was a transient and McCaffery chose one as a possible ♀??

1123 watching a chase — ♀ tried to land around (2,5) and was chased first by 2 then by 1 ♂. Wound up 800+ m southeast of grid and 150 m up in air before I lost her in the sun.

minute 98 of 80/6/16-1: ♂ flew up ~50 m in air and glided back down. A new display??

Minute 113 began chasing a ♀ that landed, doing so w/ considerable aggression. Flew up some 40 m in air but did not leave air space over territory, even though the ♀ did immediately

17 June

Went to Grid 2 @ 0445 to see if melanotos actively any better than. It was not. In 7 hrs field time on the Grid I saw 3 ♀♀, possibly only 1. At infrequent intervals resident ♂♂ chase transient ♂♂ through territory.

GRID 3, NARL, Barrow, Alaska

McCaffery found a 2 egg melanotos clutch today on Grid 3. Much Pachytes and apparently the territorial array has tightened up considerably. Also more than 1 ♀. He tracked the ♀ for 3 hrs and then returned to camp. We went out, banded her, and then mounted a 24 hr watch to determine with whom she copulates. Unfortunately between 1400 and 1600 she laid her third egg.

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Calidris melanotos tracking account

Grid 3, IVARI, Barrow, Alaska

17 June

1830- Brian has been tracking this ♀ (W:RM) since this afternoon. We just banded her at 1730. At 1830 as I was about to take over she flew onto the territory of a ♂₂ adjacent to the ♂₁ on whose territory she is nesting. That ♂₁ (♂₂) is now in an intense grouse display, courting W:RM. Unfortunately she is behind a mound so we cannot see how she is reacting. At 1833 ♂₂ hooted over her. She did not Butt UP. Before this she had been feeding on ♂₁'s territory. ♂₁ began growling. ♂₂ flew in and disrupted. That ♀ went to ♂₂. The two ♂♂ flew off together and began a border fight, turning to parallel march within 2 m of where she was feeding. They marched and they fought. After 2 minutes ♂₁ flew to his territory and ♂₂ began growling to W:RM. She weaved away from him, took flight, called once, he followed and she flew ~100m. There is a 2nd local female present on ♂₂'s territory, bathing and feeding. She then flew back to ♂₁'s area.

SUMMARY OF 1835-1930

W:RM fed off away from her nest, ~300 m to SE on the territory of 2 ♂♂ adjacent to the ♂ on whose territory she is nesting. After a brief flurry at the beginning of the session (actually just before it began - see McAffery's notes + the description above) she fed, roosted or preened throughout. Then at the end she flew back to the area of her nest. ~~201~~

18 June

~~Deep~~ summary of 0300-0700 - Female W:RM remained within 100 m of nest for entire 4 hr period. ♂ paid her almost no attention except for approximately 35 seconds at minute 95 and then for an intense 2 minutes at minute 214 (= 0634 am), 33 seconds of which was copulation. Not once did he hoot over her nor do a low intensity grouse display. It was all business. The copulation sequence was remarkably perfunctory from her

JPM Myers

1980

Calidris melanotos

GRID 3 NARL Barrow

18 June
(cont'd)

point of view. He engaged in two brief intense grouse displays (one 5 seconds, then she flew, then another 10 seconds, then he mounted). Mounting last 33 seconds. He then went back to 5 seconds of intense grouse and then returned to court his other ♀. Intriguing observation - she fluttered briefly at minute 214 and he was in like a flash - immediately. Copulation occurred less than 70 seconds later. Was that flutter an invitation?

1500-1730 tracked W:RM ♀ melanotos again. This time she spent all but the first 24 minutes fidgeting on her nest. During the time she was off the nest, 2 separate ♂♂ - ♂₁ and ♂₂, displayed briefly to her in rolling grouse postures and calls. While on the nest she laid her last egg, completing the clutch. At ~ ¹⁶⁰⁰~~1545~~ (minute 48) she began a series of restless movements and adjustments, including much raising of tail. Does this signify the beginning of incubation?

19 June

0400 tracking a ♀ melanotos on Grid 3, unbanded. Before I began tracking I spooked W:RM off her nest. ♂₁ immediately flew in and began a rolling grouse display to her - one more intense, in fact, than the actual precopulatory sequence of 18 June (see above).

1145 began tracking another unbanded ♀. I tracked her for 109 minutes. Then Sordahl and McLaughlin took over until 1830, simply watching in order to find nest. W:RM did. She was very heavy in the oviduct, as if carrying an egg [which has been obvious in other tracked ♀s now + confirmed to be linked to eggs]. At no time during daytime session (1145-1830) did a ♂ hoot over her, and only twice did ♂₁ land nearby and grouse. Given the ♂♂ usually treatment of ♀♀ this was astounding. The more we follow known, localized ♀♀ the more impressed I am that ♂♂ leave them alone most of the time. Incidentally, during the entire period (1145-1830) she remained within a 0.75 ha area, all on ♂₁'s territory.

20 June

2230 (of 19 June) to 0500 (20 June) I was on the grid, tracking ♀ 4M: - from 2300-0500. See tracking data. This ♀ laid her 3rd egg between 1000 and 1047

JPHugers
1980

Calidris melanotos

GRID 3, NAARL, Barrow, Alaska

20 June
(cont'd)

on the 19th and was banded that afternoon. Her nest is within 20 m of the boundary between σ_4 and σ_6 . During the evening melanotos display activity was high until 0200. ♀♀'s are still moving in - I saw one flock of 7 ♀♀ settle down in the woods by T8, and they were scattered throughout the lowlands out there. If there is a melanotos hot spot this year it is these lowlands east of Grid 3 and N of T8. Beaucoup de melanotos. The ♀ ^{banded 4m-} copulated with σ_4 at 0317. This is the ♂ on whose territory she nests. She did, however, venture outside of his area, foraging as far as 250 m from her nest (3c, egg 3 laid 19 June between 1000 and 1047). In doing so she traversed the territories of σ_6 and σ_{10} , both of whom entered into intense grouse display with her. She did not butt-up. See tracking account. What struck me as remarkable was the fact that most of the time the ♂♂ left her to forage. They ^{all 3 - σ_4 , σ_6 , σ_{10}} knew she was there. They displayed to others unnecessarily. But she was left in peace most of the time even though she was preparing her 4th egg and thus had to become receptive at some time. And when she did the sex was over in less than 1 minute (see tracking account). OFF THE WALL HYPOTHESIS — Once a ♀ is receptive it behooves a ♂ to leave her be. If he harrasses her too much she'll probably leave the territory, and she won't be on HIS territory at the moment she's ready to copulate. Perhaps they resemble Tryngites in this regard. Forgive the anthropomorphism, but... it seems that a Tryngites ♂ goal is to allow the ♀ to remain undisturbed with him. If she doesn't get disrupted then he is obviously a good ♂. Melanotos could be doing the same thing: undisturbed ♀♀ are on areas with ♂♂ capable of excluding others very effectively, i.e. good ♂♂. So the ♀ remains if undisturbed. This might be called the kinesis model of calidridine sociality....

21 June

Began tracking at 0000 hrs on Grid 3, remained through 0600. Not so fortunate as last few days. The 1st ♀ I picked up I spotted from 200 m away - she

JP Myers
1980

Calidris melanotos

Grid 3, NAHL, Barrow, AK

21 June
(cont'd)

was perched roosting atop a polygon. She remained there roosting for 84 minutes while a ♂ displayed incessantly around her. She then started to feed but after 3 minutes she left the grid entirely. See tracking account. I then contacted @ 0320 to the ♀ I tracked yesterday near station (4,7). She played cat + mouse with me for some 80 min before I decided to stop, partly because I wanted to back off & find her nest. About an hr later, returning to the area, I spooked her up off a 2c clukta. Banded her. But with that my luck turned because I found a already individually recognizable and localized ♀ doing nest cup construction — i.e. a bird w/o any eggs. By then, however, I had to go in. I sent T. Sordahl out to track her immediately, and then I went out @ 1000 and tracked her. See tracking account. Truly an amazing girl because of how tame she is. Her ♂ is also quite bold — perhaps completely oblivious. MOST REMARKABLE — that while this ♀ interacted w/ the ♂, who displayed incessantly, she made little noises, chirps quite similar to the sounds a ♀ makes when she calls in her chicks. She did this as he hooted over her. She did this repeatedly while he hooted over. I then returned at 1000 to track her. She is physically distinct from other ♀♀ around her — a bright red cap, strong buffy ~~above~~ auricular patches and a strong white V on the back. Finally, because both she & the ♂ are extraordinarily bold I have been able to get very close during their interaction.

Notes from tracking tape:

1020 ♂ is under the tail ~~at~~ cocked, wings lowered passive but crouched on the ground. He gives the low intensity grouse call. ♀ approaches. He then enters intense grouse, rolling grouse call, standing up, jouncing chest up + down

1034. ♀ is voluntarily approaching ♂ — not other way around! Highly unusual as normally the ♀ tries to keep away.

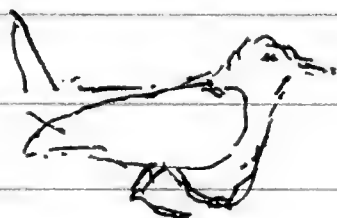
J P Myers
1980

Calidris melanotos

Cyid 3, RARL, Barrow, Alaska

22 June

⁰⁰¹⁶ ♂ in low intensity grouse call - LIGC with tail cocked - (see tracking data) and he is running away from ♀! How She follows him! Shades of Pynggites. At other times he does not move away in this posture but instead moves forward. His body is noticeably lowered toward ground, so much so that his pectoral sac hangs but a centimeter from the surface. Wings slightly lowered. Moves like a tank



← LIGC/TC = HIGH

Typically gives the LIGrouse call - rrrr rrrr rrrr. He may continue for 10 sec - 2 minutes and then either stop, often to ~~Alert~~ Alert-Preen, or go into the rolling grouse display. The ♀ I am tracking this evening - Redhead - has not yet begun to lay eggs. She spends a significant amount of time working on nest cups. What strikes me is the fact that this ♂ is quite different - quite a contrast with the behavior of ♂♂ found ♀♀ who have begun to lay.

Low intensity grouse call (LIGC) = the noise he makes here, homologous I am sure with alpine frog calls. rrrr rrrr rrrr. LIGC display is this when the male is simply standing, often alert on a mound.

High intensity grouse display = that call in posture described above

aside

Rolling Grouse - usually follows LIGC, given within 10 cm or so of ♀, following her around, pectoral sac bouncing with a horrendous bubbling, rolling sound coming out. Periodic carophony, rising & lowering in a regular fashion at 1-2 sec here. ~~He is in tail cocked position, head~~ raising & lowering along with the changes in pitch of the sound.

minute 96 of tracking session (= 0015) ♂ remaining w/♀. She is chirping again - see notes from this p.m. There is no way I would hear this if this ♀ weren't so tame.

JPHyers

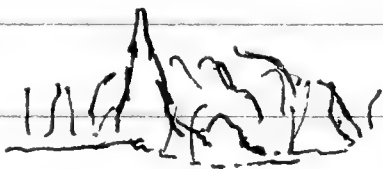
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Calidris melanotos

GRID 3 NARL, Barrow, Alaska

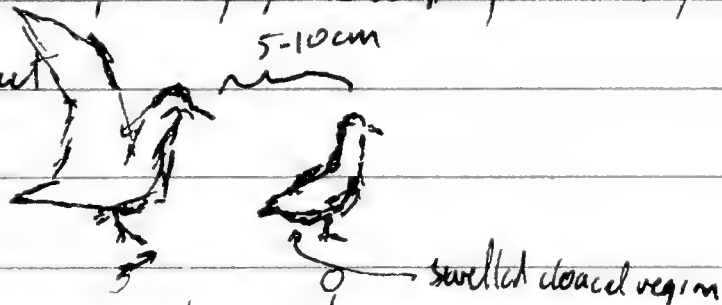
22 June
cont'd

0120 - ♀ working on nest cup, the second one during current tracking session and the 4th all told. She begins by entering a clump of Carex aquatilis + compressing substrate with her breast; her tail sticks way up in the air - often it is all



you can see of her. Then she sits up a bit, for 10-15 sec + looks around. Then she goes back to pushing with breast. The ♂ sometimes hoods over her as she does this. After working by pushing down, she starts digging at the Carex blades around her nest, working them over her with her bill, and also picking up materials from around the nest - especially Thamnochloa and other lichens, tossing them over her shoulder.

0145 ♂ has been following beside her, then approaches + goes into HIG-D. She stands still, he goes behind her, rolling grouse display. She is facing away from him, he bows her, she erect



As he stops RGE and begins to squawk, raises one wing, then both wings. His neck goes out + he starts to wave his head up + down as he squawks continuously. The squawk has elements of the aggressive jabber call to it.

The head waving carries the head from the position shown above to one at a lower angle:



and he does this very rapidly, once or

so per second (but irregularly). He is also treading in place. Then this time she runs away + he breaks off, flying abruptly to a nearby mound. Sometimes, especially when she isn't upright, he breaks off, stands erect for a second

JPH
1980

Calidris melanotos

GRID 3, NARL, Barrow, AK

22 June

(cont'd)

0335 they both have begun to roost, the ♂ on top of an HC Polygon, the ♀ about 2 m away on the downwind side. As they roost, both with bills tucked, the ♂ periodically offers the LIG-Call for a few seconds at a time, without unhooking bill.

0540 throughout this tracking session as well as yesterday of same ♀ the ♂ has been devoted to her, no time for anyone or anything else. He has even passed up opportunities for ♂-♀ chances. During 6 hrs of tracking this evening (02345 - 0545) he looked over her 28 times = once every 13 minutes.

He remained within 30 m of her for most of evening + much of the time even closer. There were 2 mountings, one of which may have been ^asuccessful copulation, the other was not. He gave LIGC's in both LIG and LIGC/TC positions repeatedly.

On 3 occasions interminable rumbled the squawk stage (including 2 mountings, above).

She investigated 2 different nest cups, both distinct from site explored this morning. She remained on her territory throughout the entire session.

1400 returned to grid to band a ♀ melanotos, the one nesting at (-2, 7) = P57.

Banded her 6:16 PM. I watched Redhead (see tracking session above) for an hour, taking photos of her and ♂. Behaviors much as last night + in particular she has no nest yet, as she explored 4 new nest cup locations.

23 June

0000 tracking RED HEAD on GRID 3. At 0019 had a very near copulation that ended with ♂ mounted, squawking and fluttering, but ♀ flew away. See tracking notes for details. I was so close as this happened that I got a decent recording of the rolling grook + the squawk on my ~~last~~ little tape recorder. This pair is OBVIOUS to me.

0041 ♀ in nest cup. ♂ approaches, LIGC/TC + then RB. This is a repeated pattern, ♀ in NC + male displays beside her.

0130 - general pattern this evening so far seems to be that the ♀ feeds + the male roosts or stands alert, giving LIGC intermittently. ♀ feeds toward ♂

JP Meyers
1980

Colinus melanotos

Grid 3, NAKL, North Slope Borough, Alaska

22 June
(cont')

~~0251~~ 0251 ♂ approaching ♀ in L16C/TC, squat position, then RG. ~~Kept up R6~~
Kept up R6 for 37 seconds. As he did, she kept running in tight circles, less
than 10 cm from ♂ (he following her), her always with rear toward him,
neck withdrawn. She doesn't like this bullshit.

0443 The ♀ aggressed toward the ♂ !! He had come over her

hooting and was running up to her, looking at/about to L16C/TC.
She flew at him from 2 m away, churring, and chased him for 1-2 sec.
She then crouched. He flew away. A FIRST.

0453 - easy to spot when she is going into a nest cup because she starts
running squat.

Summary of this tracking session: The ♂ remained with ♀ Redhead throughout the 7 hrs
(0600-0700) I tracked her. He was the only ♂ she played with. During those 7 hrs
he remained within 50 m of her most of the time preening, feeding, grooming, etc. He
hooted over her 17 times (once every 17.5 min). He mounted her once, and reached
the squawk stage one other time, the R6 stage 6 other times. But most
remarkable of all, beginning at time 283 (= 0443) she crouched aggressively at
him and chased him away from her.

② 2320 returned to Grid 3 for another tracking session of ♀ Redhead. Actually I
arrived at 2215, coming early to place additional stakes in the grid. When I arrived
then Redhead was working on a new nest cup. Every time I come to look for
her I find her in < 5 min. She isn't moving anywhere, as suggested by our
tracking data. Her locus of activity has shrunk from ~2 ha on 21 June to
1 ha last night. This evening between 2320 and 0520 (6 hrs) she used ~0.5 ha.
I am astonished at this trend. How can this ♀ possibly be promiscuous if she uses
but a fraction of 1 ♂'s territory? When I arrived ²²¹⁵ she was working on a

J P Meyers
1980

Calidris melanotos

Grnd 3, NARL, Barrow, AK

23 June
(cont'd)

nest cup. At 2320 she was in another. As it turned out, early in the morning of the 24th (~0120 hrs)^{see below} she laid her 1st egg in the nest cup she was building at 2320. In all, I saw her work >15 different cups over the last 3 days + nights (since 21 June). Nest cupping: begins as she creeps into new site beneath a clump of Carex aquatilis. Begins by pressing down with breast, rising vertically (see drawing 22 June). This stage may last 3-4 minutes or only 20 sec. At the latter, then she leaves, abandoning that site. The longer sessions of pressing are followed by her sitting in the cup, looking about alert, and then beginning to fidget with vegetation beside the cup, tearing it with her bill. This is mixed with periods of quiet alert. Finally she begins grabbing local lichens, Dactylina and Thamnolia, tossing them over her shoulder. ~~And~~ And after that she steps out of the nest, forward 3-4 cm, and continues to toss vegetation over her shoulder. Longer bouts of working on NC's last up to 5 min. Occasionally the ♂ comes over, stands beside her, and gives an HIG or even a RG display.

24 June

* At 0110 Redhead returned to the NC where she'd been at 2320. This time she simply got in without going through the breast pressing routine. She played with exterior grasses for 5 minutes and tossed in a few lichens. After 8 minutes she began just sitting, or at least that's what it looked like. She remained in this NC for 23 minutes, during which time she LAYED HER 1ST EGG!! It had to come out sometime.... I remained with the ♀ for 6 hrs until 0520. The display frequency has dropped tremendously, only 6 hoots (because of tape recorder malfunction I had only 316 minutes data - making for 1 hoot every 53 minutes). No copulation but two squawking episodes. The ♂ also spent much less time in LIG or LIG/PC. It appears as if once copulation begins the ♂ spend much less energy on display and increasingly less time with the ♀. It will be interesting to see if this trend continues through the duration of laying for Redhead, this ♀.

J. Myers
1980

Colinus melanotos

GRID 3, NARL, Barrow, Alaska

24 June
cont'd

1552 reached grid 3. Redhead ♀ was not on her nest; the ♂ was there feeding. Still one egg. At 1558 I found Redhead at virtually the SAME SPOT to the east/northeast where I left her this a.m. @ 0520.

1620 - ♀ ignored by ♂ so far; quite a contrast from earlier days (see my notes, tracking account by Myers + Sordahl). Interpretation - During early days of courtship, before the ♀ has taken the final + ultimate step in commitment - i.e. egg laying - the ♂ courts her almost incessantly. Then at some pt she decides this is the spot for her. It may have been that the aggression noted on the night/morning of 23 June was the turning point. After then she became belligerent toward the ♂ + also he "knows" she can't leave because of the growing clutch. I have seen repeated small instances of ♀ → ♂ aggression since that evening. The ♂ then begins to ignore her, except for brief periods which sometimes involve copulation.

Weather this afternoon - temp = 38°F, 0 clouds, wind 5 mph from NE. Summary - Redhead did not visit her nest during the 3 hrs I tracked her. She was hooked to only twice. No intensive grouse display. The ♂ remained nearby but his ardor is cooling. Very little LIGC either.

25 June

0230 fog rolls in after a beautifully clear evening. Is this the return of normal Barrow weather? We have had a spectacularly warm mid + late June. Wind moderate from NE @ 10 mph. By 0800 fog cleared.

Redhead was not on her nest at 0800 but she now has 2 eggs but they are cool. 0923 found Redhead

1140 - ~~Red~~ Redhead feeding by (2,7) within 5 m of Y:Ym's nest (a local ♀ melanotos). Y:Ym flew off nest and chased Redhead away. Chased Redhead twice once while ⁴⁰m from nest. Y:Ym then stood feeding near Redhead with her tail depressed + backfeathers raised, much like winter aggressive tail-down posture of territorial bird in winter.

JPH/gyas
1980

Calidris melanotos

GRID 3, NAEL, Barrow, Alaska

25 June
cont'd

I remained w/ this ♀ until 1400 when Sordahl took over. During this swim she was hooted over 5 times in 283 minutes, once / 57 minutes. She had very few interactions with the ♂, including only one RG and no squawk. Her ♂, in fact began repeated display over a 2nd female. He largely ignored Redhead. So the trend continues.

Returned at 1750 to take over from Sordahl. A remarkable evening as the ♂ ignored her throughout the 4 hrs I tracked. He had a 2nd female + was hooting over there incessantly. I wonder because Redhead should be about to copulate for 3rd egg. Why does the ♂ ignore her so completely? It is 100% consistent with the behavior of ♂ toward other ♀♀ we have tracked in this stage of laying. PECULIAR! Equally remarkable is the fact that throughout this swim the ♀ stayed within a ~~25~~⁵⁰ m radius circle of, straying over fewer than 0.25 ha.

NOTE - Sordahl saw a Pomarine take GW:GW's nest today at 1600.

26 June

1350 began tracking GW:GW today, as she was being displayed to by ♂₁, Redheads ♂₁. She is in Mueena where this ♂ was so active last night and probably was that ♀. Briefly, her history: she began by laying on territory of ♂₆ (map of 21 June). Brian + Tex tracked her during this period. She was detected making nest cups on 21 June + laid her first egg by 1630 that afternoon. Clutch completed by the morning of 25 June.

But by that date ♂₁ (again map of 21 June) had expanded his territory in that direction far enough to include her nest. Then 1600 hrs ^{25 June} the pomarine struck.

Late that night ♂₁ began displaying incessantly to a ♀ in his area, and I suspect it was her, especially given that he is displaying to her this a.m. ~~There she~~

1415 - GW:GW is crossing a boundary into ♂₃'s territory. ♂₁ and ♂₃ are fighting at the boundary

NOTE - whole melanotos scene exceedingly quiet today

GW:GW

JP Hagen
1980

Calidris melanotos

GRID 3, Barrow, Alaska

26 June
(cont'd)

again on tracking GW:GM — by 1600 I am impressed at the amount of movement by this bird. See tracking sheet. I picked her up on (-3,9). She fed to (-3,11) [100m], flew briefly, and then flew 250 m to (2,9), actually on the ridge. And her style of movement on the ground contrasts strongly with both laying ♀ and incubating ♀. She is clearly searching. She feeds for a while then runs, and then stands upright and alert, looking around. The (2,9) area, by the way, is controlled by yet another ♂₅ ♂₅. However she goes to the tops of mounds and polygons + stands upright. In doing so she becomes very conspicuous. Her vent, incidentally, is not at all swollen.

1540. began tracking REDHEAD. I found her immediately upon reaching the vicinity of her nest, which has 3e now and she was not on. ♂₁ was displaying to another ♀, who was persistently BU.

1740 — as I track redhead, now at 1740 ♂₅ has begun hooting to GW:GM (see previous tracking session)

I remained with Redhead for 100 minutes. She went onto the nest during minute 27 and remained there for the duration.

2038 began tracking redhead again. She was on her nest at 2000 when I arrived. She has 3e yet. ♂₁ paid her attention in the beginning of the session and she responded by getting off her nest, standing upright. He almost mounted. After that ~~they~~^{she} had another interaction with ♂₃ into whose territory she then banded. She gave ♂₃ a strong BU as he hooted over her. She also chirped aggressively.

Re GW:GM: throughout this evening ♂₃ has been courting GW:GM, hooting intensely + frequently. ♂₃, fortunately, can be ~~reps~~ recognized as an individual: he limps terribly (I'll call him Limp) and he has a secondary or tertial hanging askew on his left wing. This is very visible in flight. Limp has been around since before the 21st, when I first noticed his unusual gait.

JPMyers
1980

Colinus melanotos

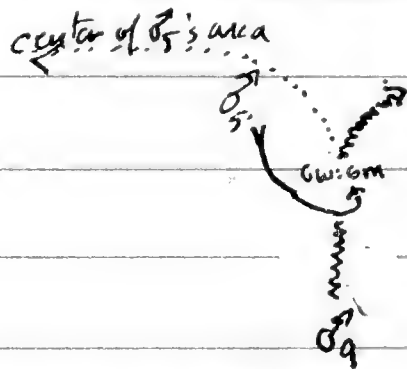
GRID 3, NARL, Barrow, Alaska

27 June

1330 - Redhead has laid her 4th egg. RW:GM is again with the ♂, LIMP, she visited yesterday. I began tracking GW:GM @ 1340. I lost her so for some time (minutes 34 → 178)

1450 - watching Redhead fed by (2,7) stake. ♀ Y:Ym flies off her nest from Bm away to chase Redhead.

1539 tracking GW:GM again. Curious observation - from 2-3 m away, ♂₅ (her beau) suddenly flies aggressively toward GW:GM + circles her around - flies back toward territory center with her. Then immediately the neighbor ♂₁ (♂₉) rose from nowhere and did a border swoop, indicating that GW:GM had been in his area. Thus:



It looked to me as if ♂₅ herded GW:GM!

1645 began tracking GW:GM again after a brief hiatus. Looked to me as if her vent is swelling.

1656 ♂₅ has been LIG @ 20 m distance from ♀. She begins to approach him, clurring slightly. He crouches down, cocks tail. She continues to approach, and comes to within 2 m. He switches to RB as she comes to within 20 cm and heads beyond him; he starts running after her, RB, then begins to SQUAWK with both wings up, then one wing up. He flies off @ 1825

1705 ANOTHER HERDING INCIDENT (see 1539, above): GW:GM has been steadily feeding toward LIMP's border w/ ♂₃ around (2,10). Suddenly at 1704:45 he began clurring aggressively from 20 m away. He flew at her, forcing her back and around so that she flew away from the border - more central to his territory (see

JPM Myers
1980

Calidris melanotos

GRID 3, NARL, Barrow, Alaska

27 June
(cont'd)

Tracking sheet, minute 18. The fact that this is a boundary became clear a moment later when σ_3 rose up from 10 m away & had a border fight with Limp, directly over the area where GW:GM had been feeding and from where Limp forced her. Again, it looked like an incident of herding behavior, or if Limp was keeping GW:GM within the confines of his territory, or possibly teaching her ???

1728 GW:GM again approaching boundary. "If that was herding before, then the σ (Limp) ought to chase her soon" ← variation from tape

1729 ♀ hides from pommerehner

*
*
* 1730 σ -Limp chases ♀ back to center of territory. He flew at her from 10 m away, dived, circled around & she returned in a flight of 90 m toward Limp's territory's center. INCREDIBLE. Limp is keeping her away from the edge of his boundary. As GW:GM flew, σ_3 rose again and AGAIN Limp and σ_3 have a boundary fight over the very spot from where Limp chased GW:GM.

This HERDING of GW:GM by Limp has now happened on two separate borders, one with σ_3 and one with σ_9 . On each occasion (thrice) the Limp 1st chased GW:GM back & then returned to fight w/ the neighbor.

Shortly after this happened σ_5 -Limp- left GW:GM and went to another ♀ at the opposite end of his territory. GW:GM hung around for 20 more minutes but then she split, flying 200 m off the ridge to the vicinity of her old nest. In quick succession 2 separate σ 's displayed to her, σ_6 , who controlled the area around her nest as she was laying, and σ_7 , who usurped that area. I was not able to keep up with her and lost her in a border dispute between σ_6 and σ_7 .

28 June

1300 reached grid and began looking for GW:GM. Could not find her. Did find

JPM:mas
1980

Colinus melanotos

GRID 3, NARL, Barrow, AK

28 June
(cont'd)

one receptive ♀ (i.e. with swollen vent) in the (3,5) area - McCaffrey later found her nest (PS 21). Limp was there with her, remaining quiet.

1410 - Y:VM feeding near (-3,11), ~300 m from her nest

1630 - Another new PS nest, this one near (6,8). This nest has only 3 eggs but nevertheless the ♀ is putting up to a local ♂ who is displaying to her and hooting over her.

1550 YM: - chased C. alpinus away from her nest (~15 m away)

1630 - I finally found GW:GM and began tracking

1747 - an intruding transient ♂ lands beside GW:GM. He starts L1BC/RC and quickly begins RB. She puts her tail down, ruffles feathers, much like winter territory display. Limp came in and chased ^{him} off.

[Limp has a real limp + has difficulty in displays because it is so pronounced.

If Zahavi's Handicap principle is correct then can we expect all ♂♂ to show a limp in the future? Not only that: he rarely hoots, and finally, he has a 2° that is askew + so badly so that he is readily recognizable in flight.]

Summary - GW:GM spent 2 hrs cruising rapidly by foot over much of Limp's territory. She spent the 1st 27 minutes, however, on ♂_q's area. For the duration Limp remained with her. He hooted once, reached SQUAWK once, and RB once. GW:GM investigated 2 separate nest cups. In their interaction several times she came to him from 10-20 m away as he gave L1BC/RC.

29 June

While I found Limp as soon as I arrived at 0400 this am, I did not find GW:GM until 0526. Most likely she was just roosting ~~quietly~~ quietly because I found her right where Limp was all along. Began tracking immediately. By 0505 about all I saw was one border fight involving Limp, plus two high ♂♂-♀ chases way in the sky over the grid. Otherwise it's quiet.

3 PM
1980

Colinus melanotos

Grid 3, NAIRL, Barrow, Alaska

29 Jun
cont'd

When I found her at 0526, Limp was in L16C/TC. Very quickly that went to RG and Squawk, + he began to mount but stopped. Without a doubt, as he gave L16C/TC, she approached him from 10m away. I see this approach business regularly. — he gives L16C/TC as she is feeding at some distance, he squats down in grass continuing L16C/TC, she approaches. She feeds to within 30 cm of him + continues ~~feeding~~ ^{pecking} beyond. As she passes, he rises into RG. Second, it is common for the SQUAWK to end as the ♂ stops onto her back briefly.

0620 — intruding ♂ arrives and hawks BW:GM for 1.5 minutes before LIMP stumbles in to the rescue. She chomped aggressively at the intruder and also gave him a BU.

0800 another intruding ♂ sneaks up to her — goes into L16C/TC, then RG. She lifts up + chirps. This ♂ goes as far as ^{RG} Squawk even though BW:GM is clucking + BU. Finally he cools off after 3 minutes. But begins again in 6 minutes. This second hostile episode saw the ♂ go to Squawk but BW:GM was ever resistant. Finally after 10 minutes (since ♂ arrived) Limp appears and chases him off.

Remained tracking until 0835 when Sondal took over.

At 1635 I replaced McCaffrey. I tracked BW:GM for 43 minutes until abruptly she flew off the grid to the area of her old nest, ~(-2, 8). A ♂, probably ♂, immediately looted over her. I say probably because he is in the same location as ♂, but his pectoral sac is regressing and his foot is faint. I came down after her but could not find her again in an hour of search. ~~DRAT~~ What is she doing down here? Other than ♂, the whole area is dead out here. Flocks of ♂ melanotos flying over conspicuously.

JPH/ps
1990

Calidris melanotos

GRID 3, NARL, Barrow, Alaska

30 June

0600 banding GR:GM on her nest; as then is happening Limp is L/GC/TC and RG to her, she is BV even though she has but 3 eggs in her clutch.

0615 found GW:GM, began tracking immediately.

0650 - an intruder ♂ appears to be trying to set up shop between ♂ Limp and ♂ G - it is involved with both, one after the other, in border flights along the border between ♂ Limp and ♂ G.

0810 - she has yet to do any nest cup building. Based on that fact and on the slower pace + the obvious swollen vent, I think she has begun to lay [prediction taped at 0810]. Unfortunately I couldn't test the prediction because she flew away at 0820, returning to the vicinity of her old nest (-2, 8). While I saw her land down there, she was quickly approached by a ♂ + swept up in a chase. I never found her again that morning. Her behavior is a bit odd - this makes the 3rd time she has disappeared within detection, flying abruptly from the (2, 9) region to (-2, 8) + getting lost. What is she doing down there?

1 July

0603 tracking GW:GM. Within 12 minutes I noticed that her pace had slowed even more from yesterday + that her vent was fuller and more swollen. She acquiesced against a ♀ LL. She behaves like a laying ♀.

At 0634 she went onto a nest - had 1 egg at 0630 and 2 eggs at 0715. Thus my prediction from yesterday was correct - she began laying yesterday a.m. Her nest, if it is on ♂ Limp's area - is just barely so. In fact it is on precisely the same spot from which he headed her twice on 29 June (see tracking). Has ♂ Limp usurped this area? Or is she off his territory?

There seem to be 2 ways to play ♀ melanotos. One is the Redhead - never stray from the ♂'s territory. The 2nd is as GW:GM - more incessantly (see tracking data). It's going to be interesting to see if she shows abt during this laying sequence.

JPHugus
1980

Calidris melanotos

Onio 3, NAIRL, Barrow, Alaska

1 July

A note on the nesting habitat of GW:GM. Her first nest was in low wet silt-, Carex - Eriophorum ruscolum along the rim of a low center polygon. This one is ~~on~~ on a high center polygon near the N edge of Gasline, in Carex - Poa arctica musc uplands. That represents a substantial microhabitat change, and curiously, she chose the more upland site 2nd, later in the season after considerable drying of tundra.

0940 ♂ Limf hools ~~at~~ over GW:GM + what a poor showing. His call is but a minor remnant of what it has been. Moreover, looking at him now it's obvious that his breast sac is regressing, diminishing drastically in size. Many of the local ♂ are similarly changing.

JP Myers
1980

Calidris melanotos

NARL, Barrow, Alaska

2 July

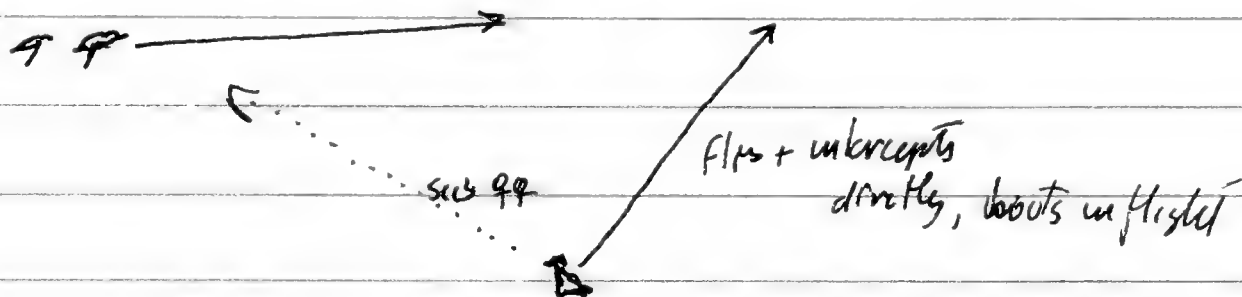
♂-♀ interactions - a catalog

[see alert-pouch placed later]

♂ hooting

HERDING - see Myers 27 June 1980

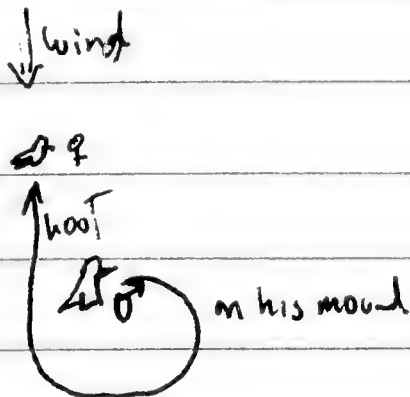
- to ♀♀ - all occur as ♀♀ fly by early in season in early season flocks - ♂ rises off the tundra having seen ♀ flocks a long way off. ♂ intercepts flock



directly in flight, not going toward them but instead anticipating their position. Will occur to single ♀ flying alone. One notable thing about this is that ♂ will bank away when he reaches his boundary (in contrast to acquisition ♂-♀ chase). Also contrasts from ♂-♀ later season chase because ♂ doesn't typically include the aggressive churrs he will later on. ♀ reaction is usually to continue on. I think this is how ♂♂ originally got ♀♀ to settle.

Once the ♀ settles the hoot changes to classic style. Early in the pair interaction he hoots once every 5-7 minutes. Classic form:

♂ perched downwind from ♀. Stands on mound with chest inflated, alert pouch (see below) He turns ~~around~~ is facing ♀ who is feeding in grass. Just before hoot he turns sideways, flies downwind, circles around + passes directly over ♀, chest sac throbbing + so low over the grass that his chest grazes the grass in passage.



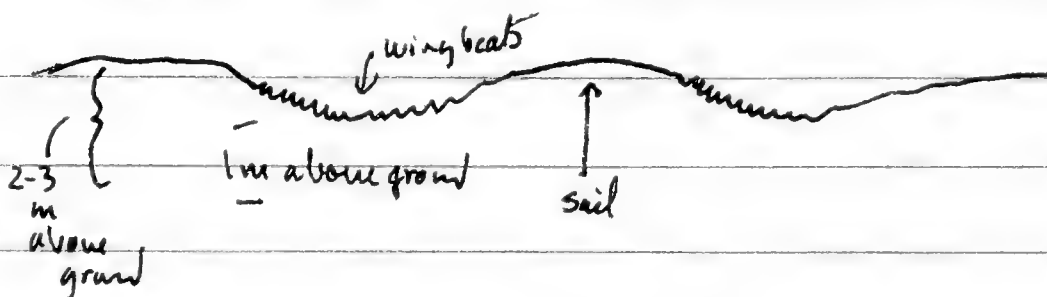
JPM: 1980

Calidris melanotos

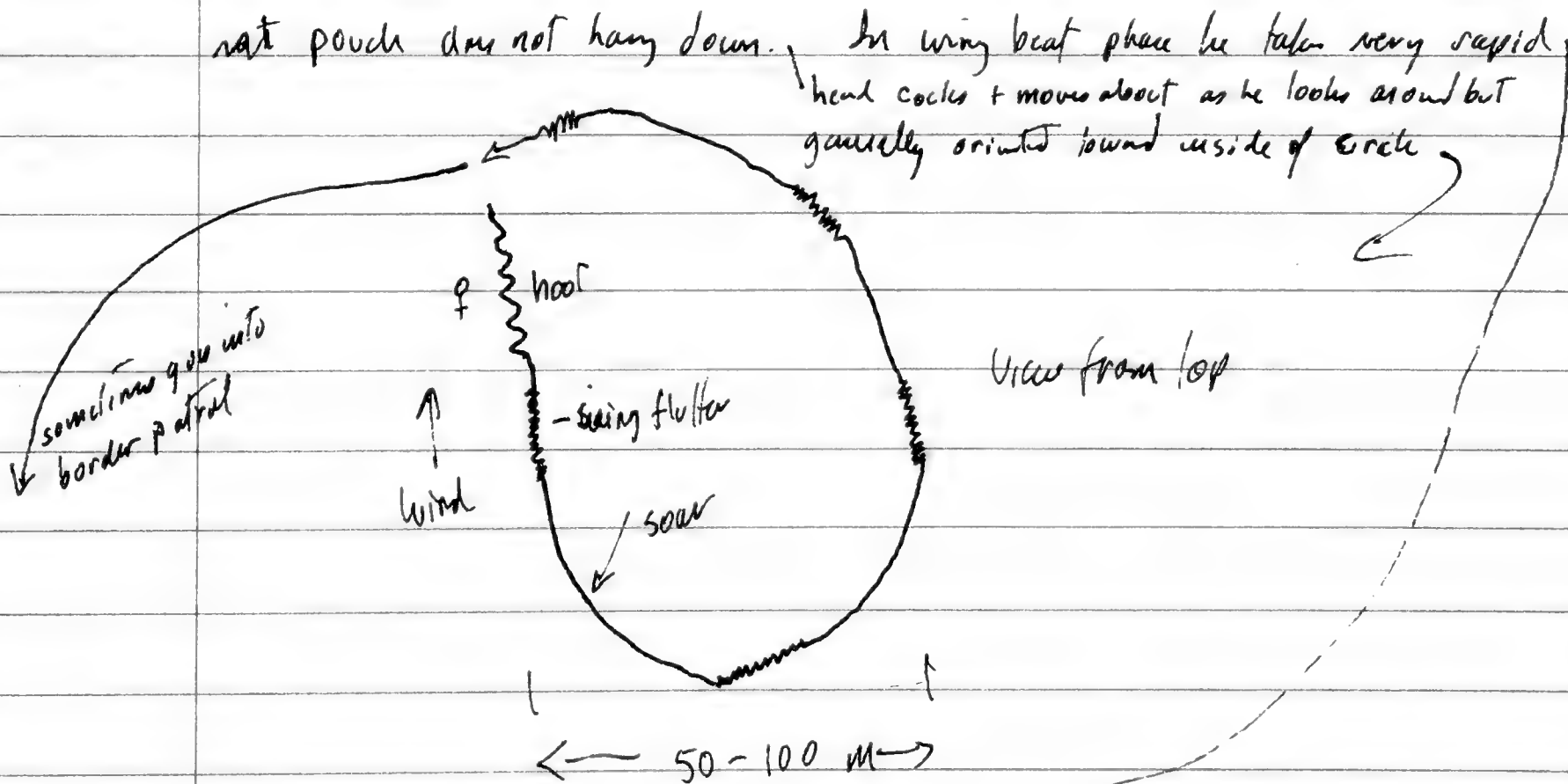
NARL, Barrow, Alaska

2 July
cont'd

Hoot continued - during the hoot the ♂'s head is bobbing and the chest sac is jouncing. As each hoot progresses both the wing beat + the hoot increase in frequency, probably in synchrony. Hoots last anywhere from 2-13 sec or more. After the hoot the ♂ usually sails around his territory - During the sail the ♂ alternates a rapid series of wing beats with a soar:



In the sail itself the wings are held awkwardly →. His tail is fanned + used as a rudder during sail - it rotates markedly ^{up & down} around central body axis. His neck is outstretched so that ^{neck} pouch does not hang down. In wing beat phase he takes very rapid



> shallow wing beats - 5-10 wing beats lasting w/ sec or not much more. Sail last several seconds depending upon wind, etc - possibly up to 5 or more seconds

JP Myers
1980

Colinus melanotos

NARL, Barrow, Alaska

2 July
(cont'd)

While the ♂ may often go directly over the ♀, sometimes he "misses" — he does it over where she was instead of where she is, and her movements to the new site were cryptic. As the interaction between a pair progresses, particularly when the ♀ begins laying a clutch, hooting over her stops almost completely — from ~~several~~ 1 every 5-10 minutes to less than 1 per hour. At the same time he may be hooting frequently over another ♀. Finally, as the season draws to a close, the tone of some ♂'s hoots changes. They ~~appear to~~ ^{appear to} this change is correlated with changes in ~~throat~~ chest condition — they lose resonance and volume as the chest ~~expands~~ regresses.

There is individual variation in hoot characteristics, particularly the lead-in ~~phase~~ phrase, whether they change pitch noticeably during a given hoot, hoot length, etc.

Functional significance of hoot — mostly involved in attracting ♀. Most commonly seen to ♀ who are in process of settling on an area. Once ♀ commits herself to a site hooting becomes less frequent. A ~~few~~ ♂'s respond to a ~~new~~ ♀ is to hoot. Occasionally we also see 2 males hooting as they are in a border fight but this may be because they are simultaneously contesting the border and displaying to the ♀ that provoked the fight.

Paradox — we also see ♂'s hooting to ♀♀ with completed clutches especially after she has spooked off her nest.

♀ reactions to hoots

1. nothing

2. Crouch — @ hides before ♂ passes over, rather cryptic

⑥ a momentary startled ~~startle~~ duck

③ butt-up



axis of body ~~oblique~~ not horizontal
tail cocked, often chirps.

JP Myers
1980

Calidris melanotos

NARL, Barrow, Alaska

2 July
(cont'd)

more on Butt-up — invariably given by ♀ with complete clutches as ♂ hoots over her. Also sometimes by ♀ w/o complete clutch.

♂ GROUSE DISPLAYS

LOW INTENSITY GROUSE CALL — LIGC

a continuum of ~~head~~ postures — either very alert or slightly tilted. ♂ stands and makes growling noise. homologous with *C. alpina* frog call. Repeated growl ~ 0.8/sec with the call 0.4 sec and silent interlude 0.4 sec. Can be as long as 1 min or as long as several minutes continuous. Usually 5-15 seconds long. This call occurs throughout period of interaction between ♂ + ♀, from onset when the ♂ is either hooting or growling all the way through to the end of egg laying. ♂ is usually on a mound doing this but he will also do it while feeding or even while roosting with his bill tucked. Often he is 10-30 m from the ♀ but sometimes as far as 50-100 m. Given only when ♀ is nearby.

♀ response — nothing, continue feeding.

LIGC/TC — (with tail cocked)



Same noise, tail cocked, feathers slightly puffed (particularly in rear), head retracted, body usually squatted down if not definitely lowered to ground. The chest is sagging slightly. Usually gets off mound to do this. Can be short duration or much longer, > 1 minute. Often moves or even runs toward female in this posture. Alternatively he may squat in grass. When this happens the ♀ may approach him (in fact does so frequently, often from distances of 10-30 m, approaching to within less than 1 m.)

J P Meyer
1980

Calidris melanotos

NARL, Barrow, Alaska

2 July
(cont'd)

The pitch of the call may change as ♂ goes from L16C to L16C/E. When the ♀ reaches the ♂ + goes beyond him he often changes to RG (see below). For strange variant of this interaction see McLafferty's entry to C. melanotos phenology 22 June 1980. Involves unusual ♀ erect posture and possible vestigial nest cupping by ♂. See also Sheppard 1978 and Meyer 1976

Rolling Grouse - RG - given in close proximity to ♀, usually in pursuit on ground, 5-15 cm away + moving rapidly. Usually from TC grouse but can start de novo. Sordahl: "How do they do that?"

While he does RG the ♀ usually keeps her tail toward him + changes direction continually. He may face her or stand broadside. Posture during RG -

laterally compressed like a rail with tail cocked Sordahl: "Looks as though his throat sac is fibrillating" with the sac jouncing at an incredible pace.

Various parts contracting at the same time. Head is moving up and down.

The RG actually has two vocalizations - one is the RG ~~itself~~ itself, the fibrillation, in an insane repeated klee klee klee (hardly does it justice). This sound continues nonstop. Superimposed on that is a hoot at periodic intervals so that the overall effect is as pitelka describes:

craw craw craw klee klee klee craw craw craw klee klee klee

where the craw is actual composed of klee and hoot. The birds head moves up and down during the craw craw craw phase, which lasts 2-3 sec each time, as does klee klee klee.

If RG persists he gets behind her and enters SQUAWK which is an obnoxious whinging sound, almost a squeal or a breathy hiss. As he does this his neck is extended fully and he begins to flutter his wings - one wing then both wings. It is 5-10 cm from her + gets close enough to step onto her back. The ~~whinge~~ SQUAWK is really two calls - a whinge alternated with

JP Myers
1980

Calidris melanotos

WARR, Barrow, Alaska

2 July
(cont'd)

the aggressive jabber note. Further + further into the SQUAWK as he gets closer + begins to flutter the jabber takes less + less time. Throughout the while his mouth is open + it is strongly red in color inside. There is a strong Arch to his neck (see Photos by Myers); he is on his toes, stamping. The wing-ups sometimes begin as tentative wing-outs, then single wing ups, then double wing ups. When this happens he stops moving ~~forward~~ Squawks forward. She stands erect + puffs out her neck feathers slightly, then he takes a ~~few~~ tentative step onto her back. Paradoxically, after all this work, the ♂ frequently Breaks-off. Just as he steps up, he stops the squawk, stands erect, preens, and flies off. Sometimes the ♀ breaks off by flying. Sometimes he will stand erect ^{1 minute} after this, + rarely he will flash a wing up - see W'claffery's entry into Phenology account for melanotos. When she flies he flies to, neither very far. The break-off can come before he starts to step up. If there is no break-off, copulation ensues. The ♂ remains on the ♀ for up to a minute, fluttering all the while. The ♀'s receptivity appears to be indicated by her posture - a ♀ standing erect with neck feathers slightly puffed out is more likely to go further in the display than one who's neck is withdrawn and who keeps running away. Sordahl: "odd that the ♀'s receptive posture in melanotos is just the opposite of what it is in other shorebirds, where a ♀ goes horizontal + not singlely butt-up just prior to copulation".

♀ → ♂ aggression

surprising observations of ♀'s aggression toward ♂. See tracking notes by Myers on 23 June. A second set of observations of same were obtained by Myers tracking GW:GM + directed toward transient ♂. Finally, W'claffery saw W:RM on 1 July chase both transient ♂ and transient ♀ away from nest. Sordahl also saw

J.P. Meyer
1980

Calidris melanotos

NARL, Barrow, Alaska

2 July
(cont'd)

♀ - wim chase ^{- 12 June in Soodahl's journal} a resident ♂ away from her nest as he came into harass her during distraction display. ♀♀ regularly chase other ♀ away from nest vicinity. Redhead appeared to be inconsistent about this. Y.Y.M. was very consistent, always chasing ♀♀ from around her nest. These observations are in tracking accounts.

Note on Grouching again - (1) when a ♀ is distracting such as when she has been spooked off the nest, the ♂ never begins with a LBC. It always goes directly to LBC/TC. (2) transient ♂♂, when displaying to a ♀, usually omit LBC. Further, their posture is a bit off - tail isn't as cocked, feathers slightly ruffled.

→ Typically this LBC/TC ends with ♂ acquiescing toward ♀, often chasing in air.

Aerial ♂-♀ chases. One to n (≤ 10 but usually 2-4) ♂♂ chase ♀ in air for several minutes. Usually we don't see beginning but when we do it often begins with a ♀ spooked off her nest. It can involve resident + transient ♂♂. There is great variability in the extent to which a given ♂ will stray from his territory. Often a ♂ goes only to its border or slightly beyond. Sometimes he will go 600-1000 m. A chase draws in ♂♂ off territories from all around. ♂ become alert as a chase approaches and then joins it as they go by. ♀ can be laying or incubating - we have observations of Redhead being chased 2 days before laying. But we also see ♀♀ off nests in chase. The chase ends - somehow - by the ♀ falling into the grass + ♂♂ piling up around her. They fight among themselves + take off but she crouches on hiding. Chases can last 6-10 minutes with the # of ♂♂ varying from 1-10 in number. These chases can often be at very high altitude - minimum of 150 m. When you follow individual ♂♂ they seem to concentrate on the ♀ particularly when it is ~~low~~ high. In lower chases often one ♂ will go for the other ♂ while they go for the ♀. Much maneuvering, zig zags.

JPVhyun
1980

Calidris melanotos

NAL, Barrow, Alaska

2 July
(cont'd)

vocalizations in chases → jabber given incessantly. Hooting by residents, more common early in the season. Resident ♂♂ also may be more likely to hoot early in a chase as they join it. ♀ also chirrs constantly; ~~not~~ a peculiarly aggressive note.

Alert - preening



♂ stands on mound, alert and preens his chest feathers. Interspersed with LIG call. Sometimes he rises up even more alert + thrusts his chest out, particularly just prior to going off on hoot run or goes into a ♂-♀ chase. Also afterward.

♂-♂ interactions

Border displays

very rare

Parallel Border Flight: Two types, normal flight + fluttering flight.

Fluttering Parallel Border Flight

♂ is angled so that plane of back is slightly above horizontal + head is elevated even above that plane.



← neck extended very slightly or not at all, lifted up
tail fanned
feet dragging
wings high + shallow

Two ♂♂ in that posture fly along border in a fluttering style, "the closest a ♂ gets to hovering. Wings are maintained above the horizontal in a high + very rapid shallow beat. At times the forward progress is so slow that they're almost stalling. They feint at one another as they go. The beginning entails one ♂ taking off and seems like an invitation - he flutters over toward the other ♂ + feints back. When both birds are in the air the trajectory is along the border, sometimes repeatedly back + forth for 50m. In the invitation phase one will fly toward the other. ~~At the~~ When both birds are up they usually

JPMeyers
1980

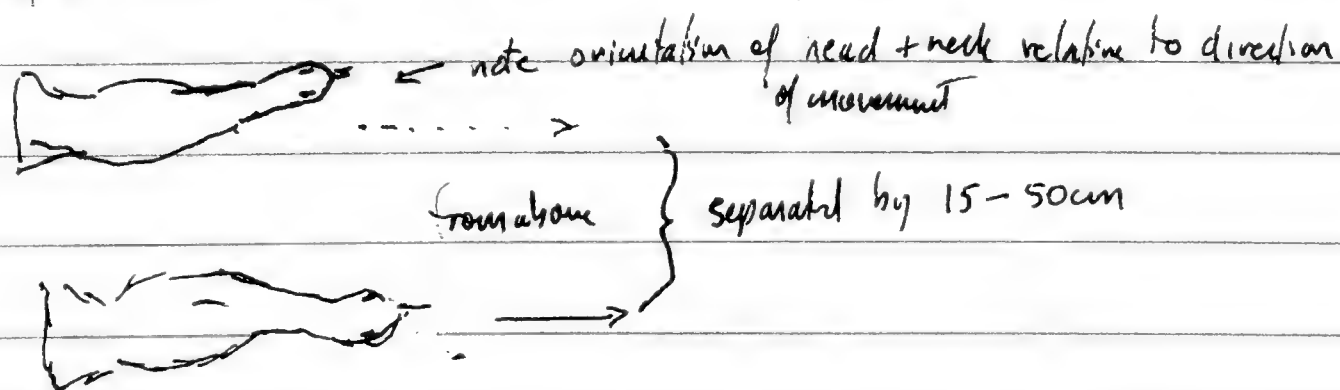
Calidris melanotos

NARL, Barrow, Alaska

2 July
(cont'd)

within 20-100cm away from one another. Usually ~ 2-5m in the air. Sometimes - very rarely - they rise to 100m. No vocalizations given. In the typical path of 2-5m they usually ~~drop~~ vary in height by changing their flight style + dropping in height slightly. At the bottom of the trajectory they return to the funny posture + either hold at that height or rise. These flights end in 2 ways: (1) a border fight as the 2 ♂♂ go down together (2) One or both simply veer off, each going to their respective territories. 1 July 1980 Meyers saw a transient ♂ performing this display with 2 other ♂♂ alternately, - along the border of these 2 ♂♂. It appears as if the transient was trying to insert himself in the array. This flight ended in the transient being chased over the 2 ♂♂ territories, first by one, then by the other. In the transition to the fight stage, they either land together or they both bank off. Then one of them flies directly to where the other has landed + they fight on the ground.

Parallel border march The 2 ♂♂ march along their border, varying in gait ~~from~~ gait from a walk to a run. They bow as they go - 4 to 7 steps per inter bow interval: They stand, then run forward bowed, then rise again. In the stand the neck is outstretched + arched forward. Tail is fanned. Feathers seemed puffed out to exaggerate body size - not grossly but perceptibly. Often their bills are slightly pointed away as in a side-head supplement of Inzagitis during winter:



Duration - about lasting 30 sec to several minutes, broken up by vicious fighting.

J P Myers
1980

Calidris melanotos

NARL, Barrow, Alaska

2 July
(cont)

Can also be interspersed with parallel border flutter flights. No vocalizations given during this interaction.

Border Fights - Often one or both ♂♂ gets very erect + they face head on. You then see a striking pattern of black + white because of contracting chest and belly with tail fanned. During the fight they grapple viciously, crouch, then spring again to the fray. Tail is fanned (at least it is when they're moving slowly enough.) Sometimes only one has tail fanned. One bird constantly seems to try to get on top of the other + then jab it in the back of the head or grab its feathers. There rarely is a clear cut winner. Ends as one heads off toward territory.

No noise other than wings striking.

BORDER SWOOP - Involves a single ♂, possibly someone who has been chasing a transient through his area + reaches the boundary. He swoops around in an arc 20-50 m - 100 m long.

neck withdrawn



→ outside of territory

exposes underside to neighbor

Usually occurs more or less at boundary but will go farther, sometimes by 50m. Myers has described this in previous years accounts (1976?)

♂-♂ chase - a very distinctive low flight - very rapid wing beat somewhat shufflow. There is a noticeable chestiness to his profile. Much like posture of Tryngites in border patrol flight. "a burriness"

This flight is also used as he takes off in pursuit of ♂-♀ chases.

Wing-ups w/♂♂. Very rare. Used in context of aggression. See

*** W. Carey's notes 1979 and 1980 (20 June) [also something like a Calidris wing fold (24 June 1980)] (Flashed underside at other ♂ 30m away, held 7 sec.

JP Myers

1980

Calidris melanotos

NARL, Barrow, Alaska

2 July

♀ displays

Butt-up (see ♂-♀ ~~display~~ description, above)

Nest cup (see Myers notes 23 June¹⁹⁸⁰)

JPMYers
1980

Calidris pusilla

Atkasook on the Uluksu River, North Slope Borough, Alaska

- 2 June saw my first pusilla today, a single bird flying furiously NE across the river
- 3 June many solitary pusilla moving NE, not pausing a moment as they hit the river and cross to the opposite bank. Also seeing some flocks of 5-10, again all going NE. Others, however, are stopping locally. First motorboat display heard at 1015 this morning. Checked area (26, 38) for banded Surinam scuripalm but not there. One bird was displaying in that area.
- 4 June still many pusilla moving through, most singly and now their direction isn't so uniformly NE. In heavily snowed areas with patches of clear ground small flocks of 5-10 drop down to the patches to feed. See 0945-Surinam Scuri is back - he was at his old territory in 26, 38 just N of the end of TB, fighting over a boundary with his neighbor.
- 7 June not any displays on the grid. No more movements seen throughout today, very few yesterday.
- 11 June spoke of a Scuri of a nest today, rodent-running. Did not find the nest. Quite a bit of aerial chasing still evident.
- 13 June pusilla stratus was being inordinately abundant this year. Witness the fact that they are displaying all over the Trypita lek.

JPNyus
1980

Calidris alpina

Htkarook on the Meade River, North Slope, Alaska

- 31 May 2 alpinus in the runway when I arrived. ~~at~~ later that evening I saw 4 at the Tryngites guild (25,42). No display
- 2 June Solitary dunlin whizzed past me several times today. Found one flock of 7 at (~28,38) on a sandy lichen ridge high above the east bank of the river. Absolutely no sign of display yet
- 3 June Small flocks of 5-10 flying NE as I walk along the river bluff, ⁻⁰⁸²⁰ one every few minutes. None pause as they reach the bluff, dip down over the river and fly beyond the far bank.
- (25,42) region There are dunlin settled on the ground, most in small flocks. Throughout day flocks of 5-10 have been whizzing past me. At first, all moved NE. But by midday or 1300 at least they began to scatter every which way. At ¹¹⁴⁵ ~~1205~~ I heard my first alpinus frog call of the year. Even still, most birds are in flocks + remain so all day long.
- 4 June movement by dunlin continued today, ^{most} ~~all~~ headed ~~east~~ NE. Much more display activity, however, and some obviously paired birds
- 6 June dunlin have stopped moving through. Display everywhere

MAARL, Barrow, Alaska

- 16 Sun dunlin densities down very low compared to other years.

JPMjers
1980

Stercorarius pomarinus

Atkasook on the Micah River, North Slope Borough, Alaska

- 1 June Two flocks moving NE toward the Chukchi this evening. The year's first
- 3 June yesterday there weren't many. Today it feels as if the push is beginning. Saw ~75 including one flock of 35 and one of 21, all moving inexorably NE. They look so ominous. Black knights off to fight the lemming plague.
- 4 June More than 150 moved passed today, probably 200-300. Biggest push was during evening when between 2000 and 2400 I saw 150 or so, most in flocks of 25-30.
- 7 June flights of pomarins continued through evening of 5th but tapered off rapidly thereafter. Only occasional solitary one seen today.
- 11 June Not seeing any more pomarins. 2230 hrs - I take that back. 2 flocks of pomarins totaling 35 went by the Trigly 1ck this evening.
- 17 June NARL, Barrow, Alaska
See JOURNAL re lemming and jaeger scene at Barrow this year.
Today saw 1 flock of 7 pomarins headed east over the tundra.

MYERS
1980

DAILY LIST: BARROW, NORTH SLOPE BOROUGH, ALASKA

date	location	18 1744	29	30	31	15 June	17 June	18 June	19 June	20 June	21 June	22 June	23 June
Gavia arctica						2	2	4	2	6	2		2
G. stellata										1	1		
G. adamsii													1
Branta bernicla													
Anas acuta						30+	30+	30+	30+	10	10	10	10
Clangula hyemalis			1	2	1	10	10	10	5	10	5	5	5
Polysticta stelleri						10	20	20	20	20	10	10	2
Somateria mollissima			500+	200+	0	20		5	20				
S. spectabilis			500+	200+	0	2	2	2			6	10	
S. fischeri							2						1
Charadrius semipalmatus								0	1				1
Pluvialis dominica			2	4	0	12	15	20	25	30	30	10	10
Arenaria interpres			75	75	75	2	4	2	2	2	2	2	
Calidris melanotos			2			20	30	40	40+	40+	50+	20	20
C. fuscicollis						1							
C. bairdii			1	4	4	10	20	20	20+	10	10	10	10
C. alpina			2	4	10	20+	30+	30+	30+	30+	30+	30+	30+
C. alba			2		1								
C. pusilla				1	2	5	5	10	10	5	10	10	15
C. mauri						4	2	4	4	3	5	4	6
Tryngites subruficollis									1				
Limnodromus scolopaceus						6	4	8	8	9	8	8	4
Phalaropus fulicarius						15	30	30+	50+	30+	30+	30+	30+
P. lobatus						2	10	15	15	2		1	
Stercorarius parasiticus						2	10	10	10	10	5	2	1
S. pomarinus						15	10	10	10	10	5	5	50
S. longicaudus										1	1	1	
Larus hyperboreus		30	500+	500+	500+	100+	5	15	15	10	15	20	20
Rissa tridactyla													
Xema sabini							1						
Sterna paradisaea									3				
Cepphus grylle													
Nyctea scandiaca			1			2				1	2		
Asio flammeus			1	1	1	4	4	4	4	4	4	2	2
Passerculus sandwichensis				1	1	10	5	5	2	2	2	2	1
Calcarius lapponicus		15	50+	50+	50+	50+	100+	100+	100+	100+	100+	100+	100+
Plectrophenax nivalis		20	50+	50+	100+	20+	20+	20+	20+	20+	20+	20+	20+
BONUS BIRDS													
Anas americana			2	2		2							
Eremophila alpestris			1	1	1								
* → Vermivora celata			1										
Anser albifrons			2			2	6	8	4	4	2	2	2
Falco sparverius			1										
Accipiter			4	4	2	8	4	15	5	5	5		
Melospiza lincolni					1								
Zonotrichia leucophrys					2								
Perisoreus naevius					1								
Colinus virginianus							1						
Colinus caryocarpus								4	2		1		
Limosa borealis										2			
Chon hyperborea													2
* → ** Calidris minuta													1
Zonotrichia albicollis											1		
Accipiter		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
* Chon hyperborea													

WENT TO ATKASOOK

* collected - specimens to U of Alaska Museum

DAILY LIST: BARROW, NORTH SLOPE BOROUGH, ALASKA

*collected - specimen to Univ. Alaska Museum, Daniel Gibson

JPM
1980

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

date	location	31 MAY	JUNE	2	3	4	5	6	7	8	9	10	11	12	13
Gavia arctica						1	1	10	5	10		5	4	8	8
G. stellata						2	1	1	5	12		2	4	4	2
G. adamsii				2	45	25	1	2	2			1	1	4	2
Olor columbianus					4	2						1			2
Anser albifrons	25		100+	100+	50+	50+	20	20+	20+			10	2	6	15
Anas platyrhynchos															
A. acuta	10			35	100+	50+	20	50+	20+			100+	30	30+	40
A. crecca carolinensis						2		1	10						
Clangula hyemalis				25	40	50+	20+	20+	20+			20	30+	30+	30
Somateria spectabilis					4	4	10	10	10			6	4	8	4
Lagopus lagopus	50+	10	50+	30	30	30	10	30	30			20	15	20	30
L. mutus	3		10	10	10	10	46	10	10			6	8	6	8
Pluvialis dominica	4		7	15	30+	30+	4	20+	30			20	20	20	20
P. squatarola	1		10	10	20	20	8	20	20			10	10	10	10
Arenaria interpres	4	5	5	5	4	6	2	4	6			4	2	0	2
Calidris melanotos	20	10	0	25	100+	50+	30	50+	50+			30	20	20	20
C. alpina	8	2	15	50+	50+	50+	10	30+	30+			30+	20	20	20
C. mauri	0			3	5	5	1	4	8			5	4	5	10
C. pusilla	0		1	30+	50+	50+	20	40	40+			30	20	30	40
Tryngites subruficollis	0	0	0	0	4	15	15	15	25			8	10	8	4
Limnodromus scolopaceus	0		0	4	25	15	10	20	20			15	10	10	20
Phalaropus fulicarius	0		0	3	30	30	20	20	30			20	10	10	10
P. lobatus	0		0	2	20	20	20	20	20			10	5	10	10
Stercorarius parasiticus	5	2	4	10	8	10	4	10	10			5	8	10	10
S. pomarinus	0	18	10	50+	150	100	10	10	5			2	35	15	0
S. longicaudus	1		2	10	10	6	4	6	10			8	4	4	10
Larus hyperboreus	40+	20	50+	50+	20	30	10	20	20			20	10	20	30
Sterna paradisaea				5	15	20	10	20	20			4	2	2	2
Nyctea scandiaca	18		18	0	15										
Asio flammeus	2	1	5	7	8	5	2	5	3			1	1	2	1
Motacilla flava				2	4	4	1	8	8			8	8	10	12
Passerculus sandwichensis	1	10	5	10	10	10	0	10	15			10	10	15	15
Zonotrichia leucophrys	2	1	1	2	4	4	0	4	6			4	6	6	10
Calcarius lapponicus	100+	100+	100+	100+	100+	100+	50+	100+	100+			100+	100+	100+	100+
Acanthis sp.	2	1	5	10+	20+	15	15	15	10			10	20	20	10
Plectrophenax nivalis	5	2	2	2	2	4	40	2	2			4	2	2	6
BONUS BIRDS															
Chen hyperborea	2		5	1	1										
Trochus naevus	1		1												
Branta bernicla	150		150+	50	20	20	5		4						
Anthus spinoletta	1														
Grus canadensis	1														
* * * Calidris alba * * *			1	1											
* * * Calidris himantopus * * *				4	6	10	10	20	10			0	0		1
Xema sabini															
Somateria fischeri					8	2			8					2	
Olor columbianus															
Arctophaga macrura					5	2	2	4	8			4	4	2	2
Buteo lagopus					1										
Luscinia svecica					2	1		2					1		
Spizella arborea					1										
Calidris bairdii							3	2							1
Corvus corax							1					2			1
Mergus serrator							2	2							2
Falco peregrinus								1						1	

WENT TO BARROW

24 13 23 33 43 36
* * * Calidris melanotos
* * * Hirundo rustica
Numenius phaeopus
Limosa lapponica
Gallinago gallinago
Circus cyaneus
all day+night at grid
adult ♂ calling
winnowing

DAILY LIST: ATKASOOK, NORTH SLOPE BOROUGH, ALASKA

[illegible]

